



jscrip ter

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August 2009

TSNET

2.2

jscripiter

( : 2009 8 22 )

# Pyth ! " # \$ % & ' "

! " #  
\$ % & %'  
( ) \* + , , -  
. / 0 1  
23 45 67 8 9: ; < 9  
=> ? 5 6 7 @ A B CD  
E F G  
H I JK L M N O PQ R>S 8 T  
UV E  
W ( -  
X Y  
Z[ \ \ ] [ ^ H \_ ` ] a b cd  
5( - Y7  
B L efg ] hi  
j k  
l mm  
(nopqr st ud -  
vw x  
H 8 st H N yz { |  
s } ~ N • € • , f „  
H N ...† \ d\_ ~  
‡ | ^  
% Š < Ě • Ž • H N yz • | ‘  
H , “ ” • - -  
N ~ ™ š ^ mm  
5 N > Y7  
H œ •  
d\_ ž Ÿ f

( i c £ ... 8 x ¥ |  
§ € " 8 pqr st ud ©# ... "

5k N ... a mm7

( £ « - ŒW \$ - ç ®1 ... ' - Z

5 ®1 < 7

( ... ` - ° s } s t ' ± k ' z s

^ H ±

( d ... ç ¶ 1 - µ ¶ µ a - ç »  
Ty ¶ µ ...

5 mm7

( ç - Á ¼ ¿ Á ¼ ½ ¼ ½ ¾ ¿ Å ¼ ½ ¼ ½

5 7

( - ... f ã ... ä ... 8 Å

5 ... Y7

( È l ... Y É Ê Ë

5 mm7

( ... 8 f ì í Ì Á Ì Ñ  
x Ò Ó x Ô Õ Đ - ¥d

ÖŠ -

5 mmx Ø Ù ç Y7  
H { Ú



H ( X - çû Â  
dY  
V H C N L f D  
ÂY  
E F GHA Â ë f I ( - fd a  
' 1  
| ( J - H | L û ë f K  
mm ML È L û  
mm H N ç ? è O Y  
P 8 ž = Q H R S T  
UV Wd Xd Z Y Z[ @\ î N  
Õ N < Y Z[ @\ î N  
? ] mm  
È ! ^ [ d x O  
i ? Y \_ š 6  
L\_ > a ` 3 " &  
5 N f a û 7  
Â ` Y s b c A | a  
Â a  
N d ç  
Âef Y Âef Â  
g a ... ¶ h i K  
Õ  
dY d mm h ü ¶  
Z[ Õ  
d j k a çû k  
ü hl Z[ û Õ  
mm  
H m m no p 8  
3 g Y  
d g Wd k  
Õ  
h ü c d Y  
d mm  
s € Æ% €q  
k j k rj s rj k s  
¾ r ( h - Õ  
d ( ¶ - çû ( h - Â h È

A ( #)y.)\*y  
+ ( #)y.),y

a  
 mmd d mm k ht ä k Y  
 s } u ... t a 8 v  
 » ... w  
 > g d j k j  
 Y  
 H > WdXd  
 mm Y  
 g Y  
 w  
 Wd x yz x d {  
 s } ... d ( Y , mm  
 - mm d Xmmçû ( - g } a ( ... - -  
 > ( ... - ( ¶ µ µ ¶ - Õ Z[ yz Õ  
 d H ç E~•š € Õ  
 hl • ¼ • ... o a ö  
 ¶ - Æ\_, ¶ - ...  
 w , - , - O ... Y yz f -  
 û û? Ÿ  
 Ç ( - - s † a  
 8 † „ ... 1 1 ^ O ° -Z ÆÇ  
 1 8 † ... w... çû ö  
 H %o L ž Ÿ Š  
 ( - }  
 < Z[ ... † ... d È Æ ... #  
 Y  
 o ... € • Ž - ••  
 • Y  
 ... A ž Ÿ  
 Y k ž Ÿ ‘ çû a Y  
 ‘ ž Ÿ çû ‘ ¶ - û  
 ‘ ¶ Y  
 > ÆÇ Õ d ( ... - Õ  
 d È ... ( ... - ^ ...  
 d d ... a Y  
 o a çû a È Õ ...  
 cd Y

```

d k mm
--- s . /0iue /
--- 1e!(s)
2
---
```

ç a Y  
d € ' ¶ ( ' ¶ - ( ' ¶ -  
“ ü Õ

```

--- ! . 1e!(/0iue /)
--- !
2
---
```

d mm  
(h " • - Õ ' ¶ (" • hl - k  
" • j k Õ  
ç \* \* " •

34(54) ( 678

ç û > € ...  
Á  
dY  
~ ~ € ... € TM  
TM Y  
€ Z[ ' ¶ ( -

```

--- ! . print(2)
2
---
```

ä f

```

--- !
---
```

Y Y  
€ ... TM

```

--- print(!)
N !e
---
```

Y  
š ‡ ( H - Y  
` Y  
, > , > î  
, > ( î Y - Z[ Ç ( œ † -  
` • mm 8 | ç û ì í È Æ Ç

d K mm d E a Y

```
--- ! . !put(/9N:/)
9N::00
--- !
/ :00/
---
```

' ¶ Æ\_ ' ¶
i Í Y µ € Ÿ' ¶ - ... †
i Í
c û ... c £ w c a h
ÿ
€ Ž u æ d 8 ... Ö

```
--- ; . 10<=>0 ): ) * :
--- ; (:0)
::
---
```

ê 6 Y
Ç » y
Â Â \* \* ¥ \* \* \* \* \* \* \* c
h a Ö

```
--- ;2 . 10<=>0 )? y: ) * y
--- ;2(2? :0)
:2
---
```

yz Ö
Ö e f h | S a ~ ¶ " ÖY
... ü " • ¶ " ÖY
Y

```
--- ;(2) * ;2(@?:0)
20
---
```

( h e f - a Ö
mm
N Y
H • Y
H Y N " a l Y
H s € Y
€
N © Wd
H a « - Y
d mm
^ N Ì a s - Ì a , z mm
N Ì a Ö
Y
c û Ì x Ì a a mm 3x
Ö

N H Xd ® w m È # - &Y mm  
H È °

dY  
i ? ç 3 È H ±²

mm  
H ì a ' U È s } % a  
Y  
· , 3

Ì È - ¶ a N H ' U  
1 o ä €

» ¼ ] L \_ μ = ç b H ½<sup>a</sup> - ¾ - "  
X Æ

d mm  
d ] L \_ Æ" ÆÆ H ÆS YÇ

1' ç ( - < •

d Y = H N > ÷  
° È û mm

Y  
Zz 9 ® H W æ  
N ÈÉ ÈÉ Y  
È û É d Õ

x ÈÈ ì • > mm  
ç Í N È - Î | \ Ì  
È x L à • d Y  
Đ \ ã N õÑ \* a  
á ' L • f c d

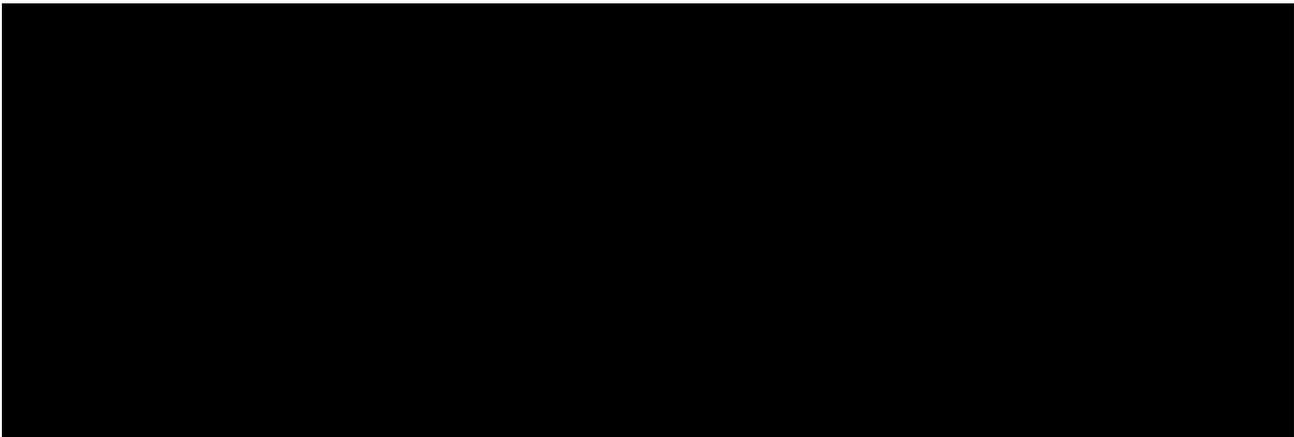
H L à ÒÓ \ TU  
mm' É  
H ÕÕ • d È û  
ž Ÿ " mm

Y  
È û ... α x ç 9 wÖ ç û x  
8 ‡ ... 8 k Ø € a  
ü W ä g  
ü h e f a Y

k g > & N  
6 Õ H ... " o g ^

Y  
... " ... a

d ùú ... " ÆÇ  
 ãs > Õ î ñ x ç 9 Û, " ñ x ç 9 mm  
 A ef Ü9 | ÝÏ x ç 9  
 B CD Y  
 B Â , ‡ Û9 Z[ B CD B CD  
 À a Õ  
 mms 6 P  
 d ... -ß ì í Õ  
 u j à á â ° ã  
 ç û Æ ç û ... Æ ùú a no h  
 a ä Ú d mmp a ž ¶  
 mm à \* \* h 8 ... Æ â æ Õ  
 d mm  
 a ç û



ç û > z ï ð ñ d                    Y  
 no      Õ z    ï ð                    8                    h  
 ¶ ... ' ¶  
 " •                    8                    Õ  
                   > ... † ç                    Õ

```

--- >e; ;(?) y? B):
... retur! ) * y * B
...
--- ;(:? 2? A)
C
---
```

...                    ò€                    •                    ç  
 ò€ Y                    €                    a Ž                    ü                    v  
                   ò€                    h                    a                    v                    ü  
 €    Ž                    ò€                    a                    Ó Ó | S                    ]                    a  
                   ç —                    Õ  
 Õ  
 ò€    u                    Y  
                   no                    d  
 | S    Æ\_                    '                    ¶                    Õ Y                    a                    Z[  
                   t <    | S  
                   '                    ¶                    ...    Z[                    ç û                    Y  
 ç û                    Y

```

--- >e; <():
... pri!t(EFe11 GO!O=uHE)
...
--- <()
Fe11 GO!O=uH
---
```

mm  
 z                    ï ð ñ d                    ç û                    € ...  
                   c                    Õ  
 ( z                    -                    ï ð ñ d                    ç                    (                    z -                    ï ð                    Õ  
 z                    ï ð ñ d                    ç                    a                    õ õ ÷ †  
 ø  
                   õ õ ÷ ù Y  
                   8                    ( ú û -                    Z[                    f Û Û                    a                    ü                    à fg  
                   à Ú                    ý þ                    \ Û                    õ õ ÷                    ÿ                    g  
 ‡ qr                    a                    (                    b -                    à (                    a                    -                    a ç û  
                   A    z                    à ï ð ñ d                    à                    b    Y  
 ...                    a                    A                    A                    Õ                    3                    A                    A                    hl

```

--- >e; g >l():
... retur! DDD
...
--- >e; =0>l():
... g1 =01 )
... ) . CCC
...
--- ) . :00
--- )
:00
--- ) . g >l()
--- )
DDD
--- =0>l()
--- )
CCC
---
```

+ ¶ 8 ... + , > ž Y a z  
... + ' mm f d - ü a +  
...† Ö  
î a Z[ Ö  
Y a f  
a ç û t à h q ± û ö ' ¶ y z i ð n  
o Z[ á â ' Æ Ç \ T a a ' î è  
à f ÷ è  
ö ö ÷ Y  
^ ' ç û a a O â a  
` g a è  
á â ' G a ... o ... ç û €  
€ F a ... ^  
€ Y  
^ ü ( € 9 - Z[ ‡ ... h ë ' †  
á â ' Y... > mm a ž Y  
È û x g € Ö Y...  
| hi \ Ç a € ... ¶ f d Y  
... " ' ¶ û a Æ Ç ... " Z #  
mm b W d a Y  
d q 8 a Ö mm

```

--- >e; ;(!):
... ;! . :
... Jhi1e ! - ::
... ;! K. !
... ! ,. :
... retur! ;!
...
--- ;(:0)
AC28800
---
```

ef ...

mm  
d d mm  
mm

x a Y  
N &  
H x È  
Y  
- H ÿ . , Y H

• d Y  
H &  
x V  
dY  
N H 9 !  
8 N 3  
° ì N €¥  
H mm " ° g a Õmm N á  
á  
ä # Ý " N è è æ

H d ë < \$d  
< % è & > i ' È' H Z# Ñ (

d N YÇ ) HAà \*  
HAà + " , N 3 j

mm  
mm  
- f H N HAà . æ < /  
N xXù à ç

á á á  
ÿ ŽO H oU 1 @ 2

u3  
> 34 mm  
13 5ä € 6 mm

N 7 j a ®Î t 8 ` - ö ] ÷  
j a ¾ H N 9 ° a : ? D  
N Ý " W ^ 4 ë ;  
mm " 5, mm

# Pyth ! " # \$ % & ' "

=  $\frac{1}{2}$  < <  $\mathcal{E}$   $\mathcal{E}$   
 r  
 Cæ > ? @ Ì  $\frac{1}{2}$  ' AB î ö Ĩ , > Y  
 DE F ã' ‡  
 ( ) \* + , , -  
 . / O 1  
 23 4 6 8 9: ; < 9  
 => ? 6 @ A B CD  
 H N L  
 N È \  
 G F G  
 H , ‡ ý m] ÷  
 Y  
 : ? I m ° D H  
 d mm` Y  
 => 1 c û ÖY  
 c û  
 Y  
 ...† mm  
 Á K ] \_ mmJ dK L  
 H Ý ® M N~ Oá c  
 -P EF  
 d è Z[ \ Q a H RU S ê  
 ^ Y @ Y  
 ÷ f i Ç T U VÓê š =>  
 mmù X W  
 è YZ  
 Y  
 \ [ \ H â Ý Xd  
 => @ A ] V Y  
 K ^ À

cû Y  
H Ý b  
“ € Ý Aa B à

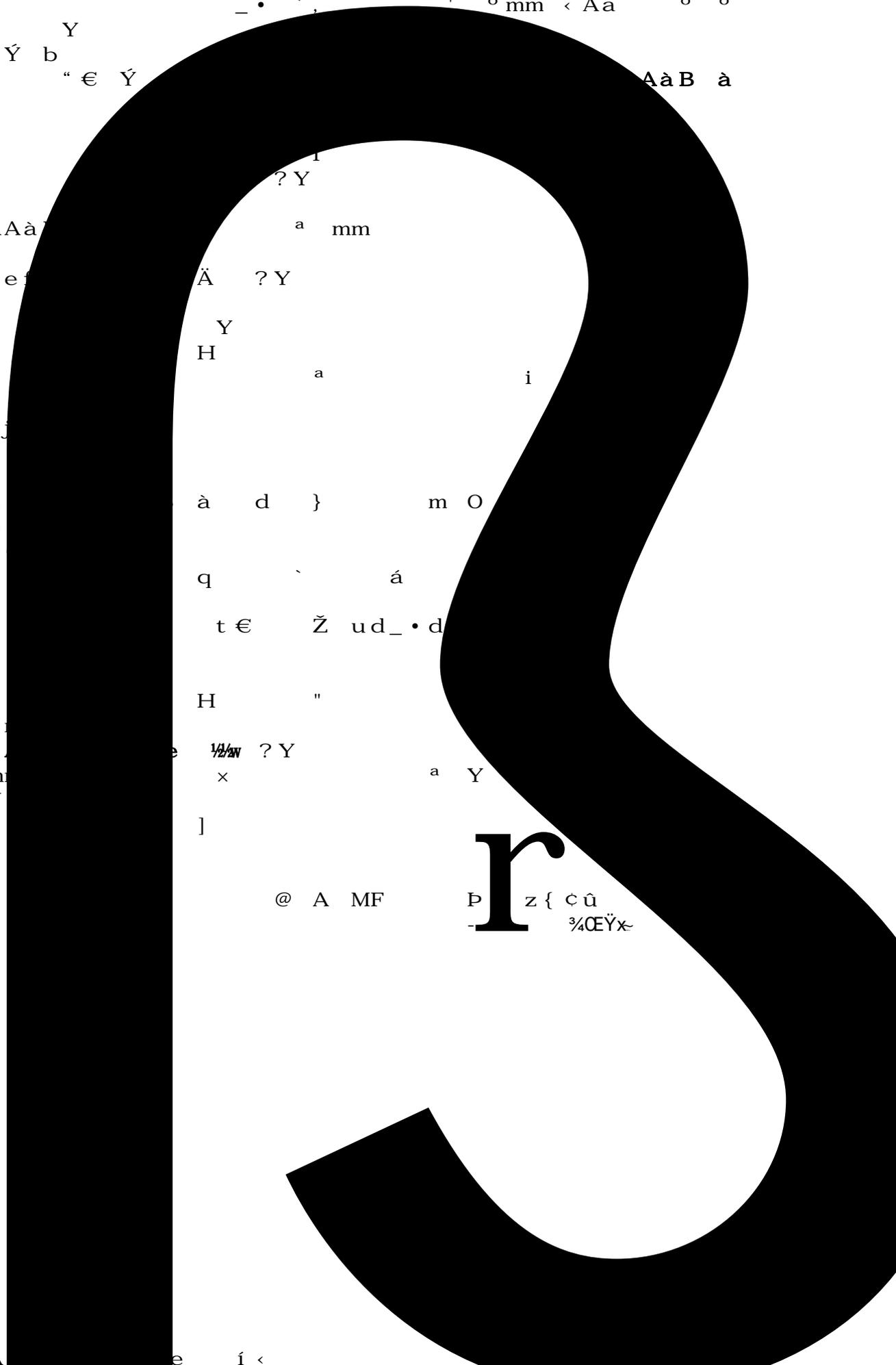
S ...  
d ?Y  
cû  
k^ AAà a mm  
• d  
ef Ä ?Y  
mm  
' ç J d Y  
H

Y  
• a i

k  
< B à d } m O  
n o  
B a q á  
> >  
> t € Ž ud\_ • d

H "  
e 1/2/2W ?Y a Y  
d m x  
Y  
xâ ]

?  
} @ A MF P z { cû  
- ¾OEÿx-



! ¼Î v w

Š û

Î N " Š < d

' Œ / • / Œ μ • „

5μ a 7 Žm i V

H = μZ ¼

23 4 Ō

\Z • = • ‡l H i V f

ä } • ‘ ‘ ū GA A N A <

..

“ ! ” • • - -Î & ~

Ã d yz Z[™ H N : - i V

ñ 1 H : ; ä q d

t š ] [ & > œ

d Y

Ž ud\_ | ”

Ō ( Âö -

Âö mm( - Yá

••••• á L á

¼ N , ž Š

( ° È ū -

i V c N ÈY

Ÿ H { # Wd <

5 ÈÈ B i “ dœ c £ ¢ ê È

É 7 { # H > œ H t { #

d N mm=> ? È c ū É a m

m > N ¥ ū Ō

Y

i V | ê ? § â “ ©

c ū â ö a Ō c ū « N È => - 6 \_ Ō

H

W € - ® • (

€ S a N - ê

H È ¼Î Y

d d mm

k N 8 • ° VŽO H C Š

Ō È N % ± , á „

û

² 5³ ( s< -

³ 1 ( < B î - ~ ‘ { Á? c H

î μ  
 f 3 1/2 • „ ¶ ~ ' N È „  
 , á „ , , N 1 ö g  
 Š ° » 1/4- û mm  
 ! ï > À  
 ë s } s } 3/4 ü f ~ o „ | C ó  
 ~ ' N ê Ì ž y z  
 ^ ~ ' N 1/2 3/4 Á  
 ~ ' 1/2 3/4 ~ ' ç À 3/4 "  
 • 3/4 à Á N 1/2 3/4  
 C Â 4 b N 1/2 ~ ' T q ~ ' ^ Á  
 É T q  
 N ~ Õ a  
 d Y  
 Z z  
 1/2 mm È 1/2 Õ ï † a a : -  
 Î Á É a 1/2 K ? Æ - ( - a  
 x p  
 i ( ? -  
 C T q x Õ b C z € Ó Ä \ Ä Æ ~ Ç  
 • d a d Æ Ñ a  
 Õ  
 É N & H 8 - Ê Ë ê  
 ~ ^ Á  
 ! Ì ›  
 Í  
 d ? y Ò ' Î ý Ĩ = Ñ ‡ a  
 f d V Ð c ú  
 Õ  
 Ĩ Ò 9 @ A > ĩ Ó Ô  
 È S g Õ a  
 Õ Š Ö K c  
 Ý x Ø Û c ú Ú = È N c ú Y  
 ... Y  
 õ BHL Û l à A Ž  
 Ö Y  
 d d  
 N ^ [ d Ô N Õ s g s >  
 Õ  
 8 K = 9 N  
 • Ü Õ \ Ý ü € « °  
 Þ ß à  
 Þ ß mm

~ ' H E à ê  
 H Y 8 5 t á â b t á ä a  
 «  
 Y  
 d à ü H e f ... Y  
 d mm  
 W M ã N à  
 C • Óê

```

--- >e; ;Oct(!):
... ;! . :
... Jhi1e ! - ::
... ;! K. !
... ! ,. :
... retur! ;!
...
--- ;Oct(:0)
AC28800
---
```

Õ  
 Y  
 Zz Ê H ® ž

```

--- >e; ;Oct(!):
... i; ! - ::
... retur! ;Oct(!, :) K !
... else:
... retur! !
...
--- ;Oct(:0)
AC28800
---
```

mm  
k È t ... ç ... •• è a Î Á ef  
d Y ... ç ... mm ç Y t t ä  
d mm ç Y àŠ ç  
{ # Wd éê ç |  
û ef a Y  
d è H ~ ' > mm ‡ a  
... U Ì Í g a - ë  
Y ç ... ' ü î mm à ü  
Ö k c s mm  
ü ç ü ' ... a \*k\* ... k k  
\*k\* ... Y  
i a Ž \*i f ?\* a Á a o ç € Ž í î  
dmm mm mm  
H no ð Ç  
a Ì Í  
ç ñ Ì ç ü a t w h Í  
ò ó 8 \  
... 8 Y  
H ô ä ç 8 Þ õ , ö Ó ] 9 ÷ Ú  
/ øù \  
Ã Y ... 8 " qu ò ó  
û H ü  
ý /} ¼ N I H  
® N = • #6 m J b H H  
? ] ÷  
N H Y  
ÿ<sup>a</sup> mm



```

àŠ      q 8      yz      ä Đ
>e; ;Oct(!):
i; ! - ::
  retur! ;Oct(!, :) K !
else:
  retur! !

```

qr no z s •• è ÖY

y ¾ 8 ÖY

¾ a d Y

l 1 ÉÊ ¹ P Z[ ÖY 8 H ç ç

¶ > \*

;Oct(A) . ;Oct(2) K A

s j Ö \*

> \*\* a ÖY

;Oct(2) . ;Oct(:) K 2

a Y

mm

;Oct(:) . :  
;Oct(2) . : K 2  
;Oct(A) . : K 2 K A

\* \* ! á

× ^ ¶ ¯ ... ¶ Wd Í a

È Xd ef ÆÇ Ö

( Xd - c d û a

Ö ef ef ÆÇ Ö

( Xd - c d û a

( V c d - O% ( V A - a V A

<sup>1/2</sup>/<sub>2</sub>Ö

d mm Y A L l æ TUV

A                    ^ ŽO                    ¾  
 Î ž g                    P mm ( ...                    ...  
 - ?                    P àŠ                    ^ ¾                    •  
                   Y  
                   Nî A                    Nî A                    u                    Ê                    àŠ O  
 V Y<sub>i</sub>                    |                    S                    è                    û  
 >  
 àŠ                    Ø O                    ã                    A H qr  
 àŠ                    g                    Õ                    z                    àŠ ÆÇ  
                   N                    à

```

--- >e; ;Oct(!? r.):
... i; ! L 2:
... retur! r
... else:
... retur! ;Oct(! , :? r K !)
...
--- ;Oct(:0)
AC28800
---
```

p àŠ                    ...                    hl                    ...                    hl                    —  
                   8                    † è                    A                    —  
                   a                    d                    A                    Î è                    L  
 3 "                    a                    A                    Î è V  
 ÆÇ                    a                    , àŠ Wd                    Y  
 ÆÇ                    È û                    Se                    H                    %                    úö                    è  
 p                    PQ !                    H Î •                    \_ Ê  
 N                    àü                    8                    ( b t á -                    àü  
 ~                    àŠ è                    t w                    \*                    a  
 N                    8                    s ç û                    \_ ß ç û                    ^ <                    .  
 s Wd ÛÚ                    ef                    a s a                    a  
 Í hi ?                    Wd Î Æ\_                    1                    s Wd                    a  
 cû                    Ç                    Y...                    Wd ÆÇ                    Y  
                   '                    H                    È û                    ±                    û                    Y  
 H                    S  
 K ...                    t                    ¾                    N                    k

d ÛÚ

â                    È û                    û                    Y  
 "                    9                    ßZ                    xŽ                    H                    ` L ' Y                    8  
                   à M à M                    ž                    N                    %  
 N                    t †                    "                    H !  
                   ] ÷                    è                    "                    "

d                    ã    í h í    #h                    f                    Y  
 Í #hY  
 H L Ž S%

$a \neq 0$                      $ax^2 + bx + c = 0$                     x    í                     $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Y  
 H                    s €                    a                    c d                    c û  
 ' Đ                    x    í                    í ê  
 mm  
 N                    s  
 È                    8                    %<sub>0</sub>                    \$    x    í    &t

(                    H T                    N i &  
                   í ...                    a                    f yz

dY                    è  
 †                    € ã    H 5                    Y7  
                   c û                    • d                    Õ \_ )    €                    ì f ?  
 ) Y  
 \*                    a                    + +

)                    f                    ã    \*\*\*\*                    ã    a                    ì f ?                    ]    a  
 Õ                    ã                    æ<sup>a</sup>                    Õ ð

èèè                    |  
                   N &  
 ,                    Y  
 O >                    H                    k                    a                    ° )                    ef

dY                    Y  
 "                    h    í    #h - .                    a  
 d                    ½    Yóô    ý                    s kmm

m ] ÷  
 d                    N  
 è                    Õ  
 dY                    )                    Y                    > /                    ... †                    c û                    á  
                   c û                    d                    2<sup>3</sup> × 2<sup>3</sup>                    Y

d                    ef                    Y + j                    ef                    Y  
                   æ<sup>a</sup>                    æ<sup>a</sup>                    æ<sup>a</sup>  
 2 × 2 × 2 × 2 × 2 × 2 = 2<sup>6</sup>                    x    s    €                    mm  
 )                    .                    +                    Õ

$$\left\{ \begin{array}{l} x^a \times x^b = x^{a+b} \\ (x^a)^b = x^{a \times b} \end{array} \right\} \quad \text{ÕY}$$

æ<sup>a</sup>                    √2                    ¶                    ¶                    a Y

' X OÄ a 1 ) Y  
 dY  
 è è g Õ c û h  
 $2 = \sqrt{2} \times \sqrt{2}$   $2 = \sqrt{2}^2$   $\sqrt{2} = 2^x$   $2 = 2^{x^2}$   $2 = 2^{x \times 2}$   
 w  $2^1$   $2^1 = 2^{x \times 2}$   $1 = x \times 2$  Y  
 d d  $\frac{1}{2}$  Y  
 ' X  
 mm ••• á  
 æ<sup>a</sup> t h

(, = \* (=KK2 , @K0Kc)KK(:P2))P(2 K 0)

a mm  
 â ž Y N s | ... a i  
 ,

ë ã y ¶ 8

```
--- >e; ;():
... retur! 2?:0
...
--- ;()
(2? :0)
```

D3 † Õ  
 4 ¶ ó  
 Ž ¾

```
--- r . ;()
--- r00R
2
--- r0:R
:0
---
```

56 ý 7d 8 ½ äš ½  
 Í ... a Õ  
 Y  
 Ž 1 G mm e f h Ç Õ

```
S s 10: .py
>e; s 1(0? =? c):
r0 . (, = * (=KK2 , @K0Kc)KK(:P2))P(2 K 0)
r: . (, = , (=KK2 , @K0Kc)KK(:P2))P(2 K 0)
retur! r0? r:
0 . :
Jhi1e 0 H. 0:
0 . eT01(i!put(E0. E))
= . eT01(i!put(E=. E))
```

```
c . eT01(i!put(Ec. E))
pr!t(s 1(0?=?c))
```

Y a „ ... Ê  
 dY Y ? yz s

```
U:VPython !Test-pyth ! s 10: .py
0. :
=. ,D
c. :2
(@.0? A.0)
```

a Y  
 c û u j  
 j<sup>1/2</sup> Nî A u j a mm

```
0. 0
=. 0
c. 0
```

```
Tr0ce=0cW (< st rece!t c011 10st):
!i!e EU:VPython !Test-s 10: .pyE? !i!e :@? !! L< >u!e-
pr!t(s 1(0?=?c))
!i!e EU:VPython !Test-s 10: .pyE? !i!e @? !! s 1
r0 . (,= * (=KK2 , @K0Kc)KK(:P2))P(2 K 0)
Xer YiTisi !Err r: ;1 0t >iTisi !
```

```
U:VPython !Test-
u a mmH{ u j Õ
` Y
H{ L A | ž Ÿ Y
o Nî A e f û
v mm
9 Õ:
```

```
mm
; 1/2 E
1/2 j s k ** s * * ** < < *
j s s ** s * * ** < < *
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j E , j ,
jj 1/2
j E , j ,
j E , j ,
```

€  
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 j  
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ÖY  
 t ~  
 « Ô \$¿ >  
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 \_ y z € @... q d | S L H  
 L H Y  
 d ¾Î a % # B Nî A A  
 « Ô O B â æ ÖY ...  
 ... î ç î  
 è q d Ä ... ÖY  
 ¶ Y

d mm mm  
 C € €  
 € €  
 j C € , j ,  
 jj ½  
 j C € , j ,  
 j C € , j ,  
 €  
 € , !,

g ... f ½ ê h ÖY  
 D Y  
 dY ê } d ¹ h  
 û € × Í  
 á

x Í no Y  
d ŸE× mm  
d d mm

\*\* s \* \* \* \* < 8 ef mm

j \* \* s \* \* \* \* <  
½j s k < \*  
j s s < \*  
½

ht < p û a mm

f Õ ÖP ç

j \* \* s \* \* \* \* <  
j s k < \*  
s

dY ... .. Y  
: „ N > F  
a È H  
Y

d  
ÂL G û È û  
( b - û  
~ ' Y

N ç  
È û ... HI a ... " 8 - Hf k  
a ( N ( úû- J Ç - Õ ... " - ß Ì Í

½ a o  
ç ' H K í o à Í Á  
H Â L Â ! c  
Â ! a  
M ™ a >

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x no D A + ° a > Ì a Qú û R ç R m  
m  
N H ã

Sž ŸT

U  
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... ç  
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V  
àŠ ç  
p àŠ  
A  
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H ...

S-WT

U  
X 'AN ß ^ (p - ( - Z[  
k ^, < , 'AN X  
~ F < | Y  
( - ( Y Z- mm  
... " 8 € U 8 €  
... no 8 € ... ç €  
€ ¶ - 5 [ V ...7 8 g no € f  
B 8 € Ÿ ü € 8 î ^ ° 8  
r 8 Ÿ " ( Ÿ - qr 8 † † ^ o q  
... ¶ - " Ç ¶ μ t ... n] ¶  
- ¶ ¶ ÆÇ | A Î ã³ a  
X ^ ú ú\_ ú\_ § | A  
Ÿ ^ ú O ¼ o Qú O ¼ ' yz £ a  
w ÉÊ 6 5úí e ç f | A : ç f è  
7 úg ½ú ú\_ ...†  
hi (j ú- k Z[  
f w (ü - Q L ° u  
AAàB à á o Z[ l ë O ç % u  
Â E GHA m¥ "  
î N nd 9 Q‡  
b c b e c o Wd ì a -  
#} u > | >  
h@ ef h ì f hl ¶ h ef y  
h ... ± p € o × o ê @ Í  
" € - 8 † q • Ñà l A ^

€ ... € à Ž à M hl à 8  
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 ... f € €  
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 ¶ € Ž ... o ... c  
 ¶ z  
 ‘ ¶ ... ‘ ¶ 8 ¶ Q O r â  
 G 8 # ... h Ä p 8 † € ñd ^  
 < ... ¶  
 ... | S - € Ž Çç 8  
 ...  
 ( œ- , > î ‘ ¶ | S ... ‘ ¶ A !  
 ® y ® y /s î S î \U ^ †  
 h f ¥ † s t O € Wd è  
 ... c  
 a @î a Út a a a u > f f  
 a ” xc } D~ Àv Wd - t  
 ww n ÷ Wd x y ¼ ] s Ê H æ  
 5 ” ^ z s Ñ ì 7  
 ... x ç 9 è p € c † S p € ... O Ý  
 ì x ç 9 f a ï ... 8 { p a p € Î Á  
 5+ | | h 7  
 î x ç 9 /O ½ ü î ^ o 8 † ½ ü  
 v } ~ S mm Ú S † no î h •  
 ° no\_ß a âž € A “ ÿ î ... ì † -  
 î ^ o ÀO Wd no î ... “  
 Ýh € “ x A x < \_ß  
 r ý, r 9 • • „ y P ? à  
 î ... “ wÁ à a  
 Ū, “ x ç 9 Ū, “ Î Y yz | , > Ø  
 ... “ Æ, Çç ... “ † ä - & Ū, “  
 8 € “ f 8 \_ß /o st ÆÇ  
 A ef Ü9 | 5k à 7 O  
 | Ýî xc o ° f a 5 † @ | † ... „ P  
 ^ H { 7 à l A n ç c A h ê  
 A ... A c A h ê  
 n 1 1  
 ? † t A \_ß 4 †  
 K=9 ^ g...  
 ò€ ... çž ... çž ... çž LCA àž  
 ... tž 5 z  
 ^ ¶ 7 , > î Ì Ó ... yz î tž  
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ö÷ b €¶ a « Ô  
 TUV t L H Î ¶ ŠÀ  
 t ß i ð < 8 ÷  
 13 5ä € 6 mm o ` . „  
 Y  
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 X ¹ AN E ç , < , €  
 M N~ C  
 EF q 8 B L I ĩ H  
 • B L A V q ê ê §  
 N ° û Œê q  
 È , > Øl a 8 t < { yz  
 ž Ÿ 5vo Z[  
 Z[ nš { , > 7 • - Ž è  
 @ A ] V N Í ' @ A •• ®  
 Y #Ñ' Ñ B N †j Wd è  
 B ÷ ^ q < V ' 8 V" " " Á  
 ã > i O { EF B ^  
 Oâ @  
 { & 2 • Î m í A - -~ • „  
 B œ ^ ð ö ¾  
 Í™ ö î € á â à a  
 } ~ f m O š à GA > œ ÷  
 ~ f g • Í gž ° O ö A Ÿ j š à  
 N Ef Í ' l  
 GA A @ N A GA A ç £ xE €³  
 Â ° N w ð < xE ð A ° A  
 ! A < " 9 f Z[  
 - - ¥i 9 3 û @ ¥i ... 9 pï N ~  
 ' É mm | | MF Ž  
 ... † 5 | ç û 7  
 s< , < , ¹ AN E † § - " à \ ± &  
 k 8' U • |  
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 , á „ N u ¼ | + | • y Q b É N ©ª ž³ 5`  
 Y7  
 Þß à Š < ~ 9 « a vª è  
 ä n o -- d ÷ª ÷ª à ü  
 í ®- í ' à Þß TUV Y  
 L ¾ ¶ ¾ L  
 ... ç û w ... f  
 à Š ç ... ç t t ä ç z à Š Dª  
 D à Š ç â æ °  
 é ê ç ç ç \_ß è ç † ç ç  
 -h Gd x 5 q± Gž 6

\*k\* ... p E i f ? ... e<sup>1</sup> ... i  
 i f ? w e<sup>1</sup>  
 p à Š ... ' ¶ à Š ... ' ¶ z à Š c Ì ,  
 A Î ê Æ Ç p à Š z † # w : - 9  
 = ^ A h l l K p à Š è

ã í h í #h ax<sup>2</sup>+bx+c=0 a≠0  
 (ax<sup>2</sup>+bx)+c=0

$$a\left(x^2+\frac{b}{a}x\right)=-c \quad \left(x^2+\frac{b}{a}x\right) > Y_2$$

$$\left(x^2+\frac{b}{a}x\right)=\frac{-c}{a}$$

³ > Y\_2 (x+a)<sup>2</sup>=x<sup>2</sup>+2ax+a<sup>2</sup> x<sup>2</sup>+a=(x+ $\frac{a}{2}$ )<sup>2</sup>-( $\frac{a}{2}$ )<sup>2</sup>

$$\left(x+\frac{b}{2a}\right)^2-\frac{b^2}{4a^2}=\frac{-c}{a} \quad \left(x+\frac{b}{2a}\right)^2=\frac{b^2-4ac}{4a^2}$$

$$\left(x+\frac{b}{2a}\right)^2=\frac{b^2}{4a^2}+\frac{-c}{a} \quad \text{jjjjj} > x+\frac{b}{2a}=\pm\sqrt{\frac{b^2-4ac}{4a^2}}$$

$$\left(x+\frac{b}{2a}\right)^2=\frac{b^2}{4a^2}+\frac{-4ac}{4a^2} \quad x+\frac{b}{2a}=\frac{\pm\sqrt{b^2-4ac}}{\pm\sqrt{4a^2}}$$

$$\frac{\pm x}{\pm y} = \frac{x}{y}, \frac{-x}{y}, \frac{x}{-y} = \frac{-x}{y}, \frac{-x}{-y} = \frac{x}{y} \quad \text{hi } \frac{\pm x}{y}$$

$$x+\frac{b}{2a}=\frac{\pm\sqrt{b^2-4ac}}{2a}$$

$$x=\frac{-b\pm\sqrt{b^2-4ac}}{2a} \quad \text{\#h}$$

$$x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}$$

x í í ê ^ 9 x í Ì Í í #h ü ~  
 hl s < .. 8 ' s  
 8 > µ > ° Ê í - < -  
 ) @\* ¶ ) • c d è ) /  
 Zz ± 5 | 7 ...  
 Ñ Ñ - ) i f ? d a  
 y O \*\*\* < \* < \*\*\* 1/2 \* \*\*\*1/2 \* Ô  
 p / \*\*\* 1/2 \* j ef s \*\*1/2

--- (, :)KK0.2  
 (C.:2A0A:DC9:::88Ce,:D\*:j)  
 ---

```

--- (,: )KK0.2*,: :
:j
---

```

```

      ò ó
      í Ef l Çç í \ TU Çç è
t a a 1 ýþ t , ÀE9 5 q 7
      Ê Z[ °
      ? Í ' ~
jj ½ ½ ® TU H K=9
N t A w w
¶ ¶ ... " • " •
      Ú Ê ° €¶ d C ¶ ... W " d —
      C ¶ ... z y ¶ ... ç— a ¶ k ^
      y Wd

```

```

>e; eZilput(p):
Jhile ::
try:
s . ilput(p)
; r ) i! s:
i; ! t ) i! E0:2A@2CD89,E: r0ise E)cepti !(/ilput err r/)
r . eT01(s)
=re0W
e)cept E)cepti ! 0s E:
prilt(E)
prilt(Eilput !u<=erHE)
c !tilue
retur! r

```

```

... - ... è H xp ! Z[ ~ ç (...
» " ¼ ½ d
Z# â ¾ Z¿ h <
o À 9 t Á
... " 8 - Hf J ç û 9 ^ " d
... " í î £ P
Â ! Â C í î PQ mm
ãN ? sã >¾ Ž Æ • 5( ãNŽ - ÇI È7
ì a Qú û R ç R mm Î ( Ì a - nd- 5Ç
7

```

F H u à G

```

S s 10A.py

>e; s 1(0? =? c):
); . 10<=>0 W:(,=*WK(=K=,@KOKc)KK0.2)P(2K0)
retur! );(:)?);(:)

>e; eZi!put(p):
retur! eT01(i!put(p))

Jhi1e ::
pri!t(E) . 0)[2 * =) * cE)
0 . eZi!put(E0. E)
i; 0 .. 0: =re0W
= . eZi!put(E=. E)
c . eZi!put(Ec. E)
pri!t(E) ,- E? s 1(0?=?c))

pri!t(EThe E!>HE)

```

F a Gu Í # h

```

--- s 1 . 10<=>0 0?=?c:Q(,=*WK(=K=,@KOKc)KK0.2)P(2K0) ; r W i! (:?, :)R
--- s 1(:?, D?: 2)
Q@.0? A.0R
---
```

**S** *T13* *h*

‡ s Á? c d μ ° d À

Ép Á h ž Ÿ h a h

Í ' " • d \* \$ °

= A ... ë ... Ê

Ë € ... ø ... È ...

y Ì ^ Í

« g s h b TU Wd î ï Wd ^ ä Ð

h u ¶ Ä Ò A i

À ÆÇ l Ñ Ò B ~ Ó ¾ Î ¾ €

¾ Î M ~ ¶ Ì Ô ã ' ^ < ^ [ Ã [

ö K=9 K ç ì í h ‡ Í

... è ì í T Y €

... a H Y Y



j ì ê

C È ž ĺ ø M BA  
 à ê  
 á š y z à Ñ h q € Î Ž d  
 R à O à Û ‘ I k ‘  
 Î ° a }  
 Ô â § \* Î Á d \* ã Ž à Ô

o C  
 ä 9 à Ñ à « r . t ž  
 ç æ « r ð d  
 C ç è ì > ç è - é ÿ ½  
 Ô

y ‘

Q<e< ry.OJWR

:: ) ) |

;u!cti ! r!>(N)\ retur! !t(N K r0!>())] ^ SS \_4

+E`9N\

SS abc  
 split(EF?Y?UE? StrSuit? E?E)] StrSuitQOR.ESE]  
 split(E ? A? @? ? C? D? 8? 9?:0? d? e? fE? Str00!W? E?E)] Str00!WQOR.E AE]  
 SS UOr>sQWey? 22R] SS abcgh  
 SS T0=1eQ22R] SS i j

split(E=?c?>?e?;?gE? Nt A? E?E)] Nt AQOR.EOE]

sr0!>()) SS \_4\$kl m  
 <0WeUOr>s()) SS abcnopqr ...  
 shu;;1e()) SS abcns7...  
 SS t ubvwq xj \$yz { n | } ~•  
 SS PeepQ: AR?TOWeQ: AR] SS € t • , ? f „ • , 4... A" f.0" :2  
 SS UOr>St0tQ22R] SS 0. † ubvw? ..ubvw• ? 2. ‡ ^ ? @. f „ • ,  
 ; r(i.0] iL22] \*\*i) UOr>St0tQiR.0]

```

SS Tur!]      SS %Š 0:< ĆE: :U•G
Tur! . 0]
SS scQ2R]     SS f „ Ž 4 0.< ?:.U•G
scQ0R.scQ: R. 0]

```

```

SS t••' ' " " r••— —7~ q
`etG0).@8P2 , (( H (isP0ir(@9?20)™™ isP0ir(@9?2:)™™ isP0ir(20?2:)))š: :0])
Jhi1e(`etG0)-scQ0R*scQ:R)\
  c0r>Yisp(0)]
  i;(Tur!..0) <0!()] e1se c <()]
  i;(**Tur!-:) Tur! . 0]
^

```

```

SS `0<e •Ter
c0r>Yisp(:)]
e)it]
^

```

```

SS
SS abcgh > i j $œ•
SS
;u!cti ! <0WeU0r>s( s?r?p)
\
  ; r(s.0] sL@] **s)\
    ; r(r.0] rL:A] **r)\
      p.sK:A *r]
      U0r>sQEsuite? pR . s] SS ž b Ÿ
      U0r>sQEr0!WE? pR . r] SS 4...

      T0=1eQpR . p]
^
^
^

```

```

SS
SS abcns•
SS
;u!cti ! sJ0p(p: ?p2? t<p)\ t<p . T0=1eQp:R] T0=1eQp:R . T0=1eQp2R] T0=1eQp2R . t<p] ^
;u!cti ! shu;;1e( i)
\
  ; r(i.0] iL22] **i) sJ0p(r!>(22)? i)] SS i j i Ć E α ¥ | n Š " ...
  SS ©ª n i Š« $abc> ¬ª - ®•
^

```

SS

```

SS • ' - °
SS
;u!cti ! isP0ir(p:?p2)\ retur! U0r>sQEr0!WE? T0=1eQp:RR .. U0r>sQEr0!WE? T0=1eQp2RR] ^

```

```

SS
SS t ± ‡ ^ ² ...³ ´ μ
SS
;u!cti ! t P s(str? r?c?s)
\
  r.su=str(str?2?:) *0]
  i;(:L.r ¶¶ rL.D)\
    s.t 1 Jer(su=str(str?:?:))
    ; r(c.0] cLD] **c) i;(s..Nt AQcR) retur! (r,:)KD*c]
  ^
  retur! ,:]
  ^

```

```

SS
SS t $·
SS
;u!cti ! c0r>Yisp(e!>SJ? r?c?str?p s)
\
  syste<(Ec1sE)] S c1e0r scree!,,i; c1s > es ! t J rW? try Ec1e0rE

```

```

SS 0....2....0....2....0....2....0....2....0
SS ,0, ,=, ,c, ,>, ,e, ,;, ,g,
SS :) Q111RQ111RQ111RQ111RQ111RQ111RQ111R (:
SS QšššRQšššRQšššR U•G:99 P 99:°•»
pri!t E ,0, ,=, ,c, ,>, ,e, ,;, ,g,E
; r(r.0] rLD] **r)\
  pri!t;(E1>) E? r*:]
  ; r(c.0] cLD] **c) pri!t;(E12sE? c0r>Stri!g(e!>SJ? rKD*c))
  pri!t;(E (1>V!E? r*:]
  ^
  pri!t E ,0, ,=, ,c, ,>, ,e, ,;, ,g,E
  pri!t;(EV! E)]
  ; r(p s.0] p sLA] **p s)
  pri!t;(E1sE? (e!>SJH.:)š(EQšššRE):c0r>Stri!g(e!>SJ?DKD*p s))
  pri!t;(E U•G:1,2> P 12>:°•»V!V!E? scQ:R? scQOR)]

  pri!t;(EPeep:E)] >e1ete Peep] >ispSt0t(Peep?:)]
  pri!t;(ETOWe:E)] >e1ete TOWe] >ispSt0t(TOWe?@)]
  pri!t;(E1Ks1sE? 2? EE? Str00!WQOR)]
  ; r(r.:] rL:A] **r) pri!t;(E™1sE? Str00!WQrR)]
  pri!t EV!E]
  ^

```

```

;u!cti ! c0r>Stri!g(e!>SJ?p s)

```

```

\
i;(e!>SJH.: ¶¶¶ (U0r>St0t0p sR..0 ™™™ U0r>St0t0p sR..:))
  retur! EQ111RE]
i;(U0r>St0t0p sR..2 ™™™ U0r>St0t0p sR..A ™™™ e!>SJ..: ¶¶¶ U0r>St0t0p sRH.@)\
  i;(e!>SJ..:) U0r>St0t0p sR.:]
  retur! spri!t;((e!>SJ..:)$EQ1s1sRE):(EL1s1s-E)?
    StrSuitQU0r>sQEsuitE? T0=1eQp sRRR?
    Str00!WQU0r>sQEr0!WE? T0=1eQp sRRR)
^
  retur! EE]
^
;u!cti ! >ispSt0t(t=1?st0t? i?r)
\
; r(i.0] iL@9] **i)
  i;(U0r>St0t0iR..st0t ™™™ U0r>St0t0iR..st0t*2) **t=1QU0r>sQEr0!WE? T0=1eQiRRR]

pri!t;(E12>E? t=100R)]
; r(r.:] rL:A] **r) pri!t;(E™™12>E? t=10rR)]
pri!t EE]
^

SS
SS < - <0i!
SS
;u!cti ! <0!( t<p?p:p2)
\
  SS 2| $ a b c $ ¼½n -¾
  p:..Jhich()] U0r>St0t0p:R*.2] c0r>Yisp(0)
  > \ p2.Jhich()] ^Jhi1e(p:..p2)]
  > `et(p:?p2)]
^
;u!cti ! Jhich( p?t<p)
\
  > \
  pri!t;(E¿hichš- E)]
  p.:] > \ t<p.EE] get1i!e t<p] ^Jhi1e(t<p..EE)] p.t P s(t<p)]
  i;(pL0) p.t P s(su=str(t<p?2?:) su=str(t<p?:?:))] SS (À $ x Á):?2² ...« n - -
  ^Jhi1e(pL0 ™™™ (p-.0 ¶¶¶ U0r>St0t0pR..@))]
  retur! p]
^

SS
SS f „ Å ^
SS
;u!cti ! > `et(p:?p2)
\
  i;(U0r>St0t0p:RL2) U0r>St0t0p:R*.2]

```

```

i;(U0r>St0tQp2RL2) U0r>St0tQp2R*.2]
c0r>Yisp(0)
i;(Tur!...:)
  pri!t;(EU < try- 1s 1s1> 1s1>V!E?
    Str0tegy? Nt A0p:1DR? i!t(p:PD)*:? Nt A0p21DR? i!t(p2PD)*:)]
i;(isP0ir(p:?p2))\
  U0r>St0tQp: R.U0r>St0tQp2R.@]
  **scQTur!R]
  ,,Tur!] SS Ã° ¥ÄÁÄ• Æ' Ç•
^e1se\
  U0r>St0tQp: R.U0r>St0tQp2R.: ]
  pri!t E... ! <0tchE]
^
pri!t;(E(push E!ter)E)] get1i!e t<p]
^

```

```

SS
SS U•G <0i!
SS
;u!cti ! c <( i?!?p?)?1ist?c!t?È)
\
SS ubvw• , $• ' nÉ ~
Str0tegy.E/Je11,W! J!/E]
).0]
>e1ete p]
; r(!.0] !L:A] **!)\
i;(PeepQ!R-.2)\
  ; r(i.0] iL@9] **i)
  i;(U0r>St0tQiR...: ¶¶ U0r>sQEr0!WE? T0=1eQiRR..!) pQ)**R.i]
  > `et(pQOR?pQ:R)]
  retur!]
^
^

```

```

SS †ubvw$Ê j : È§l ...
Str0tegy.E/preTi us1y,e)isti!g 2!>/E]
c!t.0]
>e1ete 1ist]
; r(i.0] iL@9] **i) i;(U0r>St0tQiR..0) 1istQc!t**R.i]
i;(PeepQ!.U0r>sQEr0!WE? T0=1eQpQOR.1istQÈ.r!>(c!t)RRRR-..)\
  SS ubvw• , $Ê j • ' nÉ ~
  ; r(i.0] iL@9] **i)\
  i;(U0r>St0tQiR...: ¶¶ U0r>sQEr0!WE? T0=1eQiRR..!)\
  > `et(pQOR?i)]
  retur!]
^
^
^

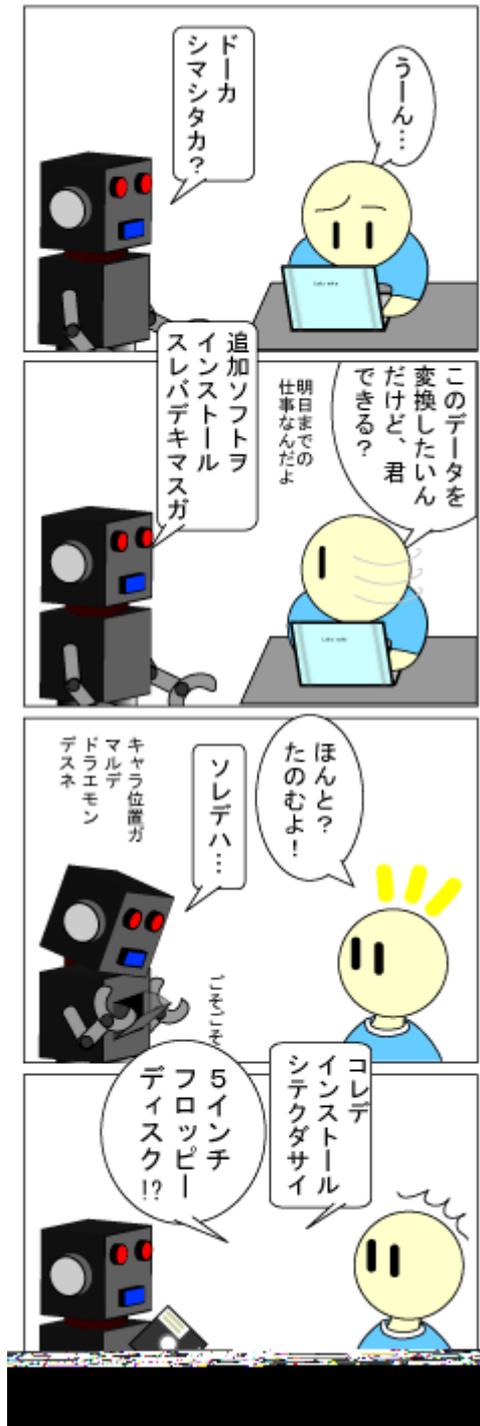
```

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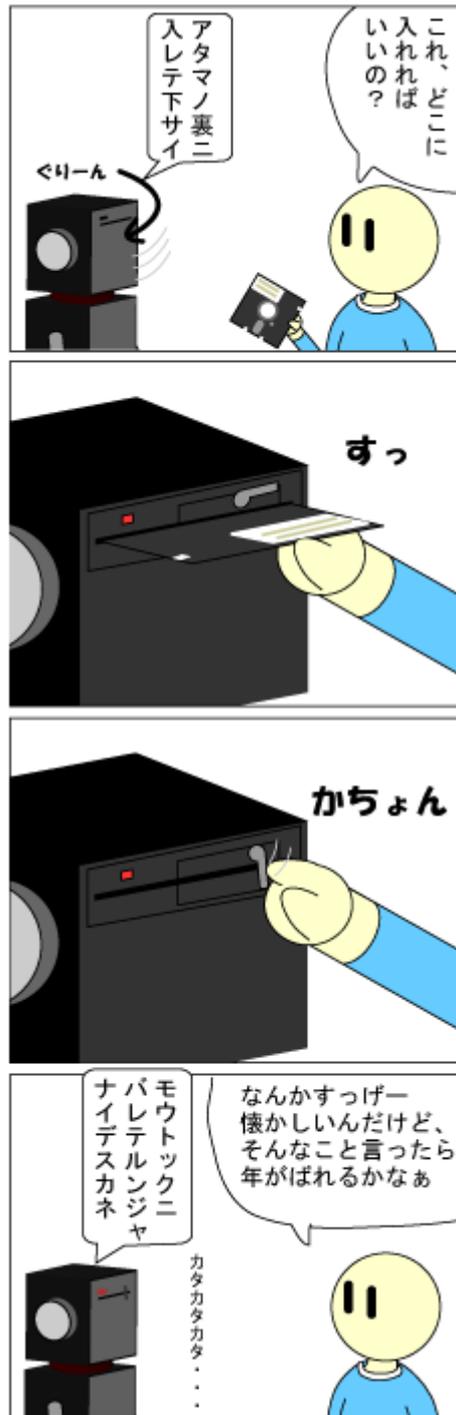
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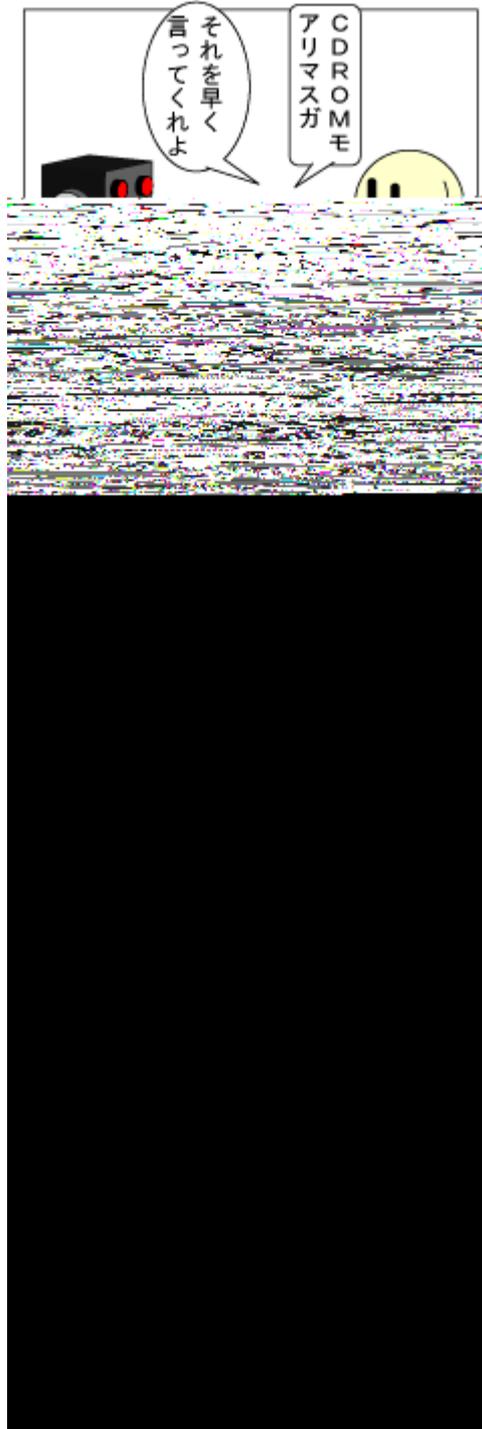
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A. Tjitter

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 use J0r!i!gs]

use °AGô]  
 use E!c >e]  
 use Net::Tjitter]  
 use li1e::Spec]  
 use li1e::F <eYir]  
 use Ter<::Pr <pt]  
 use `et pt::ô !g]  
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ó™ . :]S ; r Xe>

ur óc !; ig]  
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<0i!()]

su= <0i! \

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su= setupZc !; ig \
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  óc !; ig . eT01 \ °AGô::ô 0>li1e(óp0th) ^ °MMM \^]

  <y óch0!ge>]
  Jhi1e (Hóc !; ig, -\user!0<e^ °MMM Hóc !; ig, -\p0ssJ r>^ ) \
    óc !; ig, -\user!0<e^ . pr <pt(/)? /user!0<e: /? //? //)]
    óc !; ig, -\p0ssJ r>^ . pr <pt(/p/? /p0ssJ r>: /? //? //)]
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  s0TeZc !; ig(óp0th? óc !; ig) i; óch0!ge>]
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su= s0TeZc !; ig \
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  ch< > 0C00? óp0th]
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su= setupZc1ie!t \
  ótJitter . Net::TJitter, -!eJ(
    user!0<e . - óc !; ig, -\user!0<e^?
    p0ssJ r> . - óc !; ig, -\p0ssJ r>^?
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S STAT»S GETF•YS
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  pri!tZup>0teZst0tus()]
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S pri!t
su= pri!tZup>0teZst0tus \
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K p ' N W d <oi! N
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<y óch0!ge>]
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    óc !; ig, -\user!0<e^ . pr <pt(/)? /user!0<e: /? /? /?)]
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use E!c >e]

use Y0te::P0rse]

use Y0te::l r<0t]

<y ó pt . shi;t(öA0`ñ)] S get pti !s

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<y ó pth . 0] S pti !: 0>> hyper1i!W t0gs

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Ešscree!Z!0<e.óscree!Z!0<e¶c u!t.óc u!tE)]

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  pri!t Eó\<estr^: E]
^e1se\
  S ,h pti !
  i;(ó pth)\
    óZ . õ sP(http:VPVPQ[VsR*)VsKóPLO hre; . Eó: E-ó: LVPO-Pg]
  ^
  óZ . e!c >e(/cp9A2/? >ec >eZe!tities(óZ))
  pri!t EóZV!E]
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z A •utput
TJitter userZti<e1i!e ŽŒ A Xe> í à í A ¶ — ú
à a TU

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S Title . tJe<
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EšscreelZ!0<e.óscree!Z!0<e¶c ul t.óc ul tE)]

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Lcre0te>Z0t-je> Aug :9 :@:A0:2D *0000 2009LPcre0te>Z0t-
Li>-A@028A2828LPi>-
Lte)t-Q[S2: A: 2][S228: 2][S2: A: 2][S208D@]R[S2CAC0][S29289][S: 2A98][S2: @8D][SAA02: ][S2@C: 2]
http:PP=it.1yP1f;@eLPte)t-
Ls urce-¶[t]0 hre;.Ehttp:PPseOrch.cp0!. rgP>istPNet,TJitterPE re1.E! ; 11 JE¶[gt]Per1
Net::TJitter¶[t]P0¶[gt]LPs urce-

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Ltru!c0te>-;01selPtru!c0te>-
Li!Zrep1yZt Zst0tusZi>-LPi!Zrep1yZt Zst0tusZi>-
Li!Zrep1yZt ZuserZi>-LPi!Zrep1yZt ZuserZi>-
L;0T rite>-;01selP;0T rite>-
Li!Zrep1yZt Zscree!Z!0<e-LPi!Zrep1yZt Zscree!Z!0<e-
Luser-
Li>-C: C2: D2LPi>-

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L!0<e-j0BBy scripiterLP!0<e-
Lscree!Z!0<e-jscripiterLPscree!Z!0<e-
L1 c0ti !-LP1 c0ti !-
L>escripti !-LP>escripti !-
Lpr ;i1eZi<0geZur1-http:PP0: .tJi<g.c <Ppr ;i1eZi<0gesPAC02CC00@Phir shi<0Z! ightZ2009,
0:Zcr pZ! r<01.jpgLPpr ;i1eZi<0geZur1-
Lur1-LPur1-
Lpr tecte>-;01selPpr tecte>-

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L; 11 JersZc u!t-CLP; 11 JersZc u!t-
Lpr ;i1eZ=0cWgr u!>Zc 1 r-D09A9DLPr ;i1eZ=0cWgr u!>Zc 1 r-
Lpr ;i1eZte)tZc 1 r-AAAAALPr ;i1eZte)tZc 1 r-
Lpr ;i1eZ1i!WZc 1 r-11AA00LPpr ;i1eZ1i!WZc 1 r-
Lpr ;i1eZsi>e=0rZ;i11Zc 1 r-AOU2UDLPpr ;i1eZsi>e=0rZ;i11Zc 1 r-
Lpr ;i1eZsi>e=0rZ= r>erZc 1 r-8CA@ACLPr ;i1eZsi>e=0rZ= r>erZc 1 r-

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Lcre0te>Z0t-S0t G0y :9 :2:AD:AD *0000 200DLPcre0te>Z0t-
L;0T uritesZc u!t-0LP;0T uritesZc u!t-
LutcZ ;;set-A2@00LPutcZ ;;set-
Lti<eZB !e-T Wy LPTi<eZB !e-
Lpr ;i1eZ=0cWgr u!>Zi<0geZur1-http:PPs.tJi<g.c <POP: 22020A20DPi<0gesPthe<esPthe<eCP=g.gi; LPp
r ;i1eZ=0cWgr u!>Zi<0geZur1-

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Lpr ;i1eZ=0cWgr u!>Zti1e-;01selPpr ;i1eZ=0cWgr u!>Zti1e-
Lst0tusesZc u!t-@0LPst0tusesZc u!t-
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 Li>-A@028A2828LPi>-  
 Lte)t-Q[S2: A: 2][S228: 2][S2: A: 2][S208D@]R[S2CAC0][S29289][S: 2A98][S2: @8D][SAA02: ][S2@C: 2]  
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 S Title . tJe< 2

S P0r0 . ,h,r  
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use ô¿P::Si<p1e]  
use FTGô::E!tities]  
use E!c >e]  
use Y0te::P0rse]  
use Y0te::l r<0t]

<y ó pt . shi;t(öA0`ñ)] S get pti !s

<y óscree!Z!0<e . /jscripiter/]S ,s0scree!Z!0<eR pti !: setup 0 scree!Z!0<e  
<y ó pth . 0] S ,h pti !: 0>> hyper1i!W t0gs  
<y óc u!t . 20] S ,cQ!u<=erR pti !: 0 !u<=er ; TieJi!g st0tuses  
<y óreT . 0] S ,r pti !: reTerse st0tuses Jith ti<e, r>er

i;(ó pt . ö P,s(Q[,R\*)Pi)\  
óscree!Z!0<e . ó:]S set 0 scree! !0<e: scree!Z!0<e 0;ter ,s  
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i;(ó pt . ö P,hPi)\  
ó pth . :]S utput hyper1i!Ws ; ur1s: :  
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i;(ó pt . ö P,c(V>\: ?A^)Pi)\  
óc u!t . ó:]S set 0 c u!t: si!g1e >igit t triple >igits 0;ter ,c  
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i;(ó pt . ö P,rPi)\  
óreT . :]S reTerse < >e: :  
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Ešscree!Z!0<e. óscree!Z!0<e[c u!t. óc u!tE])

<y 1st0tuses . (])

Jhi1e(  
óuserZst0tuses . ö PLst0tus-.Kš  
Lcre0te>Z0t-(.Kš)LVPcre0te>Z0t-.Kš  
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    sP(http:VPVPQ[VsR*)VsKóPLO hre; . Eó: E-ó: LVPO-Pg]
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  <y óst0tus . e!c >e(/cp9A2/? >ec >eZe!tities(óst0tuses\ócre0te>Z0t^))
  pri!t Eóst0tusV!E]
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