

?cghYb`cgYfAigYiagY]bhf]hh. 6fYa Yb ZY]Yfh GdUf_UggYb! xi V]`Àia°

9f`YVYb`G]Y`Ua ** "; `]'&\$&) 'ZfY]Yb`9]bhf]hh`]b`6fYa Yf AigYYb"'9bhXYW_Yb`G]Y`?i`hif`ibX`; YgW\]W\hY`]a ; V]`Àia ; V]`Aif Algorithm ; V]`Aif Alg



6fYa Ybž'8 Yi hgWX `UbX'!'8]Y'JcfZfYi XY'ghY][h''5a '*"'\$\]'&\$&)

XØfZYb'g]WX'?i bgh!'i bX'?i `hi f]bhYfYgg]YfhY']b''6fYa Yb''Ui Z'Y]b

[Ubn'VYgcbXYfYg'9j Ybh'ZfYi Yb"'=a 'FU\a Yb'XYg'\$\forange V]`Ài a g'XYf

GdUf_UggY'6fYa Ybž'X]Y'%, &) '[Y[fØbXYh'k i fXY'i bX'gY]h'nk Y]

\$\f\i bXYfhYb'ZØf'JYf'\Agg`]WX_Y]h'i bX'[YgY``gWXUZh`]WXY

JYfUbhk cfhi b['ghY\hž'\OZZbYh'X]Y'VchUb]_U']a 'F\cXcXYbXfcbdUf_
gck]Y'nY\b'VYXYi hYbXY'A i gYYb'XYf'GhUXh']\fY'HØfYb'_cghYb`cg"

N]Y``X]YgYf'5_h]cb']gh'Ygž'?i `hi f'ZØf'U``Y'Yf`YVVUf'ni 'a UWXYb'i bX
6fYa Yb'Ui g'Y]bYf'bYi Yb'DYfgdY_h]j Y'ni 'YbhXYW_Yb"'8UVY]'g]bX
gck c\``9]b\Y]a]gWXY'U`g'Ui WX'6Ygi WXYf'\Yfn`]WX'Y]b[Y'UXYbž'X]Y
A i gYYb'U``Y]bž'a]h': fYi bXYb'cXYf'XYf': Ua]`]Y'ni 'Yf_i bXYbž'k]Y'
gdch!VfYa Yb"XY'VYf]WXhYh''

Ni 'XYb'hY]'bY\a YbXYb'AigYYb'nÀ\`Yb'i bhYf'UbXYfYa 'X]Y
fYbca a]YfhY'?i bgh\U``Y'i bX'XUg', VYfgYY!AigYi a "'9]b'hc``Yg
5b[YVchž'XYbb'gc'\UVYb'5`hi bX'¾ b['X]Y'7\UbW'ž'g]W\'a]h'?i bgh
i bX'; YgW\]W\hY'c\bY'9]bhf]hhg\ØfXYb'Ui gni hUi gW\Yb'': Øf

\$\delta Zcfa Uh]cbYb'ni 'XYb']bX]j]Xi Y``Yb'² \newline{Z}bi b[gnY]hYb'`c\bh'g]W\'Y]b
6`]\mathbb{\text{W}'Ui Z'X]Y'Yk Y]`][Yb'K YVgY]hYb'XYf'AigYYb''

?i `hi fY``Yg'9fVY'i bX'9b[U[Ya Ybh

?i bghi bX:?i `hi fig]bX:YW.hY:[YgY``gW.UZh`]W.Y:GW.ÀhnYži bX:XUg
9b[U[Ya Ybh:XYf:GdUf_UggY:6fYa Yb:nY][hž:k]Y:k]W.h][:X]YgYf
6YfY]W.]gh":BYVYb:XYf:5_h]cb::fY]Yf:9]bhf]hh ž:X]Y:j cf:U``Ya
6fYa Yf:?]bXYfb:i bX:¾[YbX`]W.Yb:gY]h:¾\fYb:XYb:Ni [Ub[:ni
AigYYb:Yf`Y]W.hYfh:\Uhž:]gh:bi b:X]Y:[YgUa hY:6Yj Ò`_Yfi b[
Y]b[Y`UXYbž:X]YgY:_i `hi fY``Yb:9]bf]W.hi b[Yb:ni 'Yf`YVYb"
a a Yf\]b:\Uh:X]Y:GdUf_UggY:a]h:]\fYf::ÒfXYfi b[:]b:XYb
6YfY]W.Yb:6]`Xi b[ž:I a k Y`hž:Gdcfh:gck]Y:?i bghi bX:?i `hi fighYhg
Y]b:[i hYg:<ÀbXW.Yb:[Y\UVhži a 'XUg'; Ya Y]bk c\``ni
i bhYfghØhnYb"

 $8 c WX `X]Y `GnYbY `XYf ?i `hi fY]bf]WX hi b[Yb `V`Y]Vh`b]WX h`ghY\Yb" = a FU\a Yb `XYf : OfXYfi b['j cb'A i gYYb ii bX`UbXYfYb' = bgh]hi h]cbYb d`UbhX]Y `6i bXYgfY[]Yfi b['k Y]hYfY `Dfc[fUa a Y"A]hXYa Dfc[fUa a ', VYfa cf[Yb' BYi Y'A cXY``Y `ZØf ?i `hi f]bgh]hi h]cbYb k YfXYb 'j cb' & $&('V]g' & $&+ 'V]g'ni ') $ '?i `hi f]bgh]hi h]cbYb']b XYi hgWXYb'; fc * ghÀXhYb'i bhYfghØhnhž']bg[YgUa hia]h'(ž*A]``]cbYb 9i fc'' <]Yf'_ObbYb' = bgh]hi h]cbYbž'X]Y `bYi Y'Dfc Y_hY'd`UbYbž'V]g'ni) $"$$$'9i fc' VYUbhfU[Yb"'I bX'XUg']gh'b]WXh'U``Ygž'Ui WX' = b]h]Uh]j Yb k]Y' @C? 5@' 'Dfc[fUa a 'ZØf'?i `hi f'i bX'9b[U[Ya Ybh 'ZÒfXYfb]bbcj Uh]j Y'5fVY]hYb']b'_`Y]bYfYb'GhÀXhYb'i bX'; Ya Y]bXYbž'k]Y Ui Z'a i gYi a gVi bX"XY'ni `YgYb']gh"$

$BUWX \setminus U^h][Y]h i b X Ni _i b ZhqdYfqdY_h]j Yb$

?`]a UgWki hn'i bX'bUWk\U`h][Y'9bhk]W_`i b['a UWkYb'Ui Wk'j cf'XYf?i `hi fgnYbY'b]Wkh'\U`h"8]j YfgY'Dfc[fUa a Y'i bX'5b[YVchY'n]Y`Yb XUfUi Z'UVz'X]Y'?i `hi fY]bf]Wkhi b[Yb']b'8Yi hgWk`UbX'__`]a U!'i bX i a k Y`hZfYi bX`]WkYf'ni '[YghU`hYb"'Gc'k]fX'b]Wkhibi f'X]Y

A $O[`]WX_Y]h'ZØf'_i`hi fY``Yb'5i ghUi gWX'[YgWXUZZYbž'gcbXYfb'Ui WX5gdY_hY'k]Y'9bYf[]YYZZ]n]Ybn'i bX'<math>\pm$ bZfUghfi _hi fj YfVYggYfi b[Ybk YfXYb'Ub[YdUW_h"

: Øf'k Y]hYfY' +bZcfa Uh]cbYb'ni f'VchUb]_U'i bX'XYb'J YfUbghU`hi b[Yb Ya dZY\`Yb'k]f'XYb'6Ygi W\'XYf'K YVg]hY'<mark>VchUb]_U!VfYa Yb"XY</mark>"

8 Y hU]`g	
Cfh	6fYa Ybž'8Yi hgWX`UbX
EiY``Yb	gdch!VfYa Yb"XY
	• k k k "VchUb]_U!VfYa Yb"XY
	• k k k "a i gYi a gVi bX"XY

6 Y gi W Y b 'G] Y 'i b g 'U i Z 'X] Y ! b U W f] W h Y b "W c a