UseASCIIvaluesofCandD.

Input Format:

Anintegerx,0< =x< =1..

Output Format:

outputasinglecharacter"C"or"D"dependingonthevalueofx.

Input 1:
0

Output 1:

C

Input 2:
1

Output 1:
D

For example:

Input	Result
0	C

Program:

```
a=int(input())
if(a==0):
    print("C")
elif(a==1):
    print("D")
```

	Input	Expected	Got	
✔	0	C	C	✔
✔	1	D	D	✔

03 - Selection Structures in Python

Ex. No. : 3.1 **Date: 12.04.24**

Register No.: 231901018 **Name: Kavin Sainath S**

Classifying Triangles

Atrianglecanbeclassifiedbasedonthelengthsofitssidesasequilateral,isoscelesor scalene.All threesidesofanequilateraltrianglehavethesamelength.Anisosceles trianglehastwosides thatarethesamelength,andathirdsidethatisadifferent length.Ifallofthesideshavedifferent lengthsthenthetriangleisscalene.

Writeaprogramthatreadsthelengthsofthethreesidesofatrianglefromthe user.Thendisplaya messagethatstatesthetriangle'stype.

SampleInput1

60

60

60

SampleOutput1

That'saequilateraltriangle

SampleInput2

40

40

80

SampleOutput2

That'saisoscelestriangle

SampleInput3

50

60

70

SampleOutput3

That'sascalenetriangle

For example:

Input	Result
60 60 60	That'saequilateraltriangle
40 40 80	That'saisoscelestriangle

Program:

```
a=int(input())
b=int(input())
c=int(input())
if(a==b and b==c and c==a):
    print("That's","a","equilateral triangle")
elif(a!=b and a!=c and b!=c):
    print("That's","a","scalene triangle")
else:
    print("That's","a","isosceles triangle")
```

	Input	Expected	Got	
✔	60 60 60	That's a equilateral triangle	That's a equilateral triangle	✔
✔	40 40 80	That's a isosceles triangle	That's a isosceles triangle	✔
✔	50 60 70	That's a scalene triangle	That's a scalene triangle	✔
✔	50 50 80	That's a isosceles triangle	That's a isosceles triangle	✔
✔	10 10 10	That's a equilateral triangle	That's a equilateral triangle	✔

Ex. No. : 3.2 **Date: 12.04.24**

Register No.: 231901018 **Name: Kavin Sainath S**

Vowel or Consonant

Inthisexerciseyouwillcreateaprogramthatreadsaletterofthealphabetfromthe user.Iftheuser entersa,e,i,ooruthenyourprogramshoulddisplayamessage indicatingthattheenteredletteris avowel.Iftheuserenters'y'thenyourprogram shoulddisplayamessageindicatingthat sometimesyisavowel,andsometimesyis aconsonant.Otherwiseyourprogramshoulddisplaya messageindicatingthatthe letterisaconsonant.

SampleInput1

i

SampleOutput1

It'savowel.

SampleInput2

y

SampleOutput2

Sometimesit'savowel...Sometimesit'saconsonant.

SampleInput3

c

SampleOutput3

It'saconsonant.

For example:

Input	Result
y	Sometimesit'savowel...Sometimesit'saconsonant.
u	It'savowel.
p	It'saconsonant.

Input	Result

Program:

```
x=input()
if(x=='y'):
    print("Sometimes it's a vowel... Sometimes it's a consonant.")
elif(x=='a' or x=='e' or x=='i' or x=='o' or x=='u'):
    print("It's a vowel.")
else:
    print("It's a consonant.")
```

	Input	Expected	Got
✔	i	It's a vowel.	It's a vowel.
✔	y	Sometimes it's a vowel... Sometimes it's a consonant.	Sometimes it's a vowel...
✔	c	It's a consonant.	It's a consonant.
✔	e	It's a vowel.	It's a vowel.
✔	r	It's a consonant.	It's a consonant.

Ex. No. : 3.3 **Date: 12.04.24**

Register No.: 231901018 **Name: Kavin Sainath S**

Electricity Bill

WriteaprogramtocalculateandprinttheElectricitybillwheretheunitconsumedbytheuseris givenfromtestcase.Itprintsthetotalamountthecustomerhastopay.Thechargeareas follows:

Unit	Charge/Unit
Upto199	@1.20
200andabovebutlessthan400	@1.50
400andabovebutlessthan600	@1.80
600andabove	@2.00

IfbillexceedsRs.400thenasurchargeof15%willbechargedandtheminimumbillshouldbeof Rs.100/-

SampleTestCases

TestCase1

Input

50

Output

100.00

TestCase2

Input

300

Output

517.50

For example:

Input	Result
100.00	120.00

Program:

```
a=float(input())
if(a<200):
    b=a*1.20
    if(b<=100):
        b=100
        print(format(b,".2f"))
    else:
        print(format(b,".2f"))
elif(a>=200 and a<400):
    c=a*1.50
    if(c>=400):
      print(format(c*0.15+c,".2f"))
    else:
      print(format(c,".2f"))
elif(a>=400 and a<600):
    d=a*1.80
    print(format(d*0.15+d,".2f"))
```

```
elif(a>600):
    e=a*2.00
    print(format(e*0.15+e,".2f"))
```

	Input	Expected	Got	
✔	50	100.00	100.00	✔
✔	100.00	120.00	120.00	✔
✔	500	1035.00	1035.00	✔
✔	700	1610.00	1610.00	✔

Ex. No. : 3.4 **Date: 12.04.24**

Register No.: 231901018 **Name: Kavin Sainath S**

IN/OUT

Ms.Sita,thefacultyhandlingprogramminglabforyouisverystrict.Yourseniorshavetoldyouthat shewillnotallowyoutoentertheweek'slabifyouhavenotcompletedatleasthalfthenumberof problemsgivenlastweek.Manyofyoudidn'tunderstandthisstatementandsotheyrequested thegoodprogrammersfromyourbatchtowriteaprogramtofindwhetherastudentwillbe allowedintoaweek'slabgiventhenumberofproblemsgivenlastweekandthenumberof problemssolvedbythestudentinthatweek.

InputFormat:

Inputconsistsof2integers.

Thefirstintegercorrespondstothenumberofproblemsgivenandthesecondinteger correspondstothenumberofproblemssolved.

OutputFormat:

Outputconsistsofthestring"IN"or"OUT".

SampleInputandOutput:

Input

8

3

Output

OUT

For example:

Input	Result
8	OUT

Input	Result
3	

Program:

```
a=int(input())
b=int(input())
c=a//2
if(b>=c):
    print("IN")
else:
    print("OUT")
```

	Input	Expected	Got	
✔	8 3	OUT	OUT	✔
✔	8 5	IN	IN	✔
✔	20 9	OUT	OUT	✔
✔	50 31	IN	IN	✔

Ex. No. : 3.5 **Date: 12.04.24**

Register No.: 231901018 **Name: Kavin Sainath S**

Second last digit

Writeaprogramthatreturnsthesecondlastdigitofthegivennumber.Secondlastdigitisbeing referred10thedigitinthetensplaceinthegivennumber.

Forexample,ifthegivennumberis197,thesecondlastdigitis9.

Note1-Thesecondlastdigitshouldbereturnedasapositivenumber.i.e.ifthegivennumberis-197, thesecondlastdigitis9.

Note2-Ifthegivennumberisasingledigitnumber,thenthesecondlastdigitdoesnotexist.Insuch cases,theprogramshouldreturn-1.i.e.ifthegivennumberis5,thesecondlastdigitshouldbe returnedas-1.

For example:

Input	Result
197	9

Program:

```
a=int(input())
b=abs(a)
if(b>=10):
```

```
c=b//10
d=c%10
print(d)
else:
   print(-1)
```

	Input	Expected	Got	
✔	197	9	9	✔
✔	-197	9	9	✔
✔	5	-1	-1	✔
✔	123456	5	5	✔
✔	8	-1	-1	✔

Ex. No. : 3.6 **Date: 12.04.24**

Register No.:231901018 **Name: Kavin Sainath S**

Chinese Zodiac

TheChinesezodiacassignsanimalstoyearsina12yearcycle.One12yearcycleis shownin thetable below.Thepatternrepeatsfromthere,with2012beinganother yearofthedragon,and1999being anotheryearofthehare.

YearAnimal

2000Dragon

2001Snake

2002Horse

2003Sheep

2004Monkey

2005Rooster

2006Dog

2007Pig

2008Rat

2009Ox

2010Tiger

2011Hare

Writeaprogramthatreadsayearfromtheuseranddisplaystheanimalassociated withthatyear. Yourprogramshouldworkcorrectlyforanyyeargreaterthanorequal tozero,notjusttheones listedinthetable.

SampleInput1

2010

SampleOutput1

2010istheyearoftheTiger.

SampleInput2

2020

SampleOutput2

2020istheyearoftheRat.

Program:

```
a=int(input())
b=a%12
if(b==0):
    print(a,"is the year of the Monkey.")
elif(b==1):
    print(a,"is the year of the Rooster.")
elif(b==2):
    print(a,"is the year of the Dog.")
elif(b==3):
    print(a,"is the year of the Pig.")
elif(b==4):
    print(a,"is the year of the Rat.")
elif(b==5):
    print(a,"is the year of the Ox.")
elif(b==6):
    print(a,"is the year of the Tiger.")
elif(b==7):
    print(a,"is the year of the Hare.")
elif(b==8):
    print(a,"is the year of the Dragon.")
```

```
elif(b==9):
    print(a,"is the yaer of the Snake.")
elif(b==10):
    print(a,"is the year of the Horse.")
elif(b==11):
    print(a,"is the year of the Sheep.")
```

	Input	Expected	Got	
✔	2010	2010 is the year of the Tiger.	2010 is the year of the Tiger.	✔
✔	2020	2020 is the year of the Rat.	2020 is the year of the Rat.	✔

Ex. No. : 3.7 **Date: 12.04.24**

Register No.: 231901018 **Name: Kavin Sainath S**

Pythagorean triple

ThreenumbersformaPythagoreantripleifthe sumofsquares oftwonumbersisequaltothe squareofthethird.

Forexample,3,5and4formaPythagoreantriple,since3*3+4*4=25=5*5
Youaregiventhreeintegers,a,b,andc.Theyneednotbegiveninincreasingorder.Iftheyforma Pythagoreantriple,thenprint"Yes",otherwise,print"No".

SampleInput

3

5

4

SampleOutput

yes

SampleTestCases

TestCase1

Input

3

5

4

Output

yes

TestCase2

Input

5

8

2

Output

no

Program:

```
a=int(input())
b=int(input())
c=int(input())
if(a*a+b*b==c*c or b*b+c*c==a*a or c*c+a*a==b*b):
    print("yes")
else:
    print("no")
```

	Input	Expected	Got	
✔	3 5 4	yes	yes	✔
✔	5 8 2	no	no	✔

Ex. No. : 3.8 **Date: 12.04.24**

Register No.: 231901018 **Name: Kavin Sainath S**

Leap Year

Mostyearshave365days.However,thetimerequiredfortheEarthtoorbittheSun isactually slightlymorethanthat.Asaresult,an extra day,February29,isincluded insomeyearstocorrect forthisdifference.Suchyearsarereferredtoasleapyears. Therulesfordeterminingwhetheror notayearisaleapyearfollow:

- Anyyearthatisdivisibleby400isaleapyear.
- Oftheremainingyears,anyyearthatisdivisibleby100isnotaleapyear.
- Oftheremainingyears,anyyearthatisdivisibleby4isaleapyear.
- Allotheryearsarenotleapyears.

Writeaprogramthatreadsayearfromtheuseranddisplaysamessageindicating whetherornotit isaleapyear.

SampleInput1

1900

SampleOutput1

1900isnotaleapyear.

SampleInput2

2000

SampleOutput2

2000isaleapyear.

Program:

```
a=int(input())
b=a%100
c=a%400
if(b==0):
    if(c==0):
        print(a,"is a leap year.")
```

```
    else:
        print(a,"is not a leap year.")
elif(a%4==0):
    print(a,"is a leap year.")
```

	Input	Expected	Got	
✔	1900	1900 is not a leap year.	1900 is not a leap year.	✔
✔	2000	2000 is a leap year.	2000 is a leap year.	✔
✔	2100	2100 is not a leap year.	2100 is not a leap year.	✔
✔	2400	2400 is a leap year.	2400 is a leap year.	✔