Program:

```
a=int(input())
b=((500-a)/130)
b=abs(b)
c=b+10
print("weekdays",format(c,".2f"))
print("weekend",format(b,".2f"))
```

	Input	Expected	Got	
✔	450	weekdays 10.38 weekend 0.38	weekdays 10.38 weekend 0.38	✔
✔	500	weekdays 10.00 weekend 0.00	weekdays 10.00 weekend 0.00	✔
✔	10000	weekdays 83.08 weekend 73.08	weekdays 83.08 weekend 73.08	✔
✔	6789	weekdays 58.38 weekend 48.38	weekdays 58.38 weekend 48.38	✔

02- Operators in Python

Ex. No. : 2.1 **Date: 06.04.24**

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

Widgets and Gizmos

Anonlineretailersellstwoproducts:widgetsandgizmos.Eachwidgetweighs75 grams.Each gizmoweighs112grams.Writeaprogramthatreadsthenumberof widgetsandthenumberof gizmosfromtheuser.Thenyourprogramshouldcompute anddisplaythetotalweightofthe parts.

SampleInput

10

20

SampleOutput

Thetotalweightofallthesewidgetsandgizmosis2990grams.

For example:

Input	Result
10 20	Thetotalweightofallthesewidgetsandgizmosis2990grams.

Program:

```
a=int(input())
b=int(input())
t=a*75+b*112
print("The total weight of all these widgets and gizmos is",t,"grams.")
```

	Input	Expected	Got	
✔	10 20	The total weight of all these widgets and gizmos is 2990 grams.	The total weight of all these widgets and gizmos is 2990 grams.	✔

Ex. No. : 2.2 **Date: 06.04.24**

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

Hamming Weight

Writeapythonprogramthattakesaintegerbetween0and15asinputanddisplaysthenumberof'1's initsbinaryform.(Hint:usepythonbitwiseoperator.

SampleInput

3

SampleOutput:

2

Explanation:

Thebinaryrepresentationof3is011,hencethereare2onesinit.sotheoutputis2.

For example:

Input	Result
3	2

Program:

```
a=int(input())
binary=bin(a)[2:]
c=0
for char in binary:
    if char=='1':
```

```
    c=c+1
print(c)
```

	Input	Expected	Got	
✔	3	2	2	✔
✔	5	2	2	✔
✔	15	4	4	✔

Ex. No. : 2.3 **Date: 06.04.24**

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

Doll Sings

InLondon,everyyearduringDasaratherewillbeaverygranddollshow.Peopletrytoinventnew dollsofdifferentvarieties.Thebest-solddoll'screatorwillbeawardedwithacashprize.Sopeople broketheirheadstocreatedollsinnovatively.Knowingthiscompetition,Mr.Lokpaultriedto createadollthatsingsonlywhenanevennumberispressedandthenumbershouldnotbezero andgreaterthan100.

IFLokpaulwinsprinttrue,otherwisefalse.

SampleInput

10

SampleOutput

True

Explanation:

Since10isanevennumberandanumberbetween0and100,Trueisprinted

For example:

Input	Result
101	False

Program:

```
a=int(input())
if(a>0 and a<101):
    if(a%2==0):
        print("True")
else:
    print("False")
```

	Input	Expected	Got	
✔	56	True	True	✔
✔	101	False	False	✔
✔	-1	False	False	✔

Ex. No. : 2.4 **Date: 06.04.24**

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

Return last digit of the given number

Writeaprogramthatreturnsthelastdigitofthegivennumber.Lastdigitisbeingreferredtothe leastsignificantdigiti.e.thedigitintheones(units)placeinthegivennumber.

Thelastdigitshouldbereturnedasapositivenumber.

Forexample,

ifthegivennumberis197,thelastdigitis7

ifthegivennumberis-197,thelastdigitis7

For example:

Input	Result
197	7
-197	7

Program:

```
a=int(input())
b=abs(a)
c=b%10
print(c)
```

	Input	Expected	Got	
✔	197	7	7	✔
✔	-197	7	7	✔

Ex. No. : 2.5 **Date: 06.04.24**

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

Tax and Tip

Theprogramthatyoucreateforthisexercisewillbeginbyreadingthecostofameal orderedata restaurantfromtheuser.Thenyourprogramwillcomputethetaxand tipforthemeal.Useyour localtaxrate(5percent)whencomputingtheamountoftaxowing. Computethetipas18 percentofthemealamount(withoutthetax).Theoutputfrom yourprogramshouldincludethe taxamount,thetipamount,andthegrandtotalfor themealincludingboththetaxandthetip. Formattheoutputsothatallofthevalues aredisplayedusingtwodecimalplaces.

SampleInput

100

SampleOutput

Thetaxis5.00andthetipis18.00,makingthetotal123.00

For example:

Input	Result
100	Thetaxis5.00andthetipis18.00,makingthetotal123.00

Program:

```
a=int(input())

tax=a*0.05
```

tip=a*0.18

total=a+tax+tip

print("The tax is ",format(tax,".2f")," and the tip is ",format(tip,".2f"),","," making the total ",format(total,".2f"),sep="")

	Input	Expected	Got	
✔	100	The tax is 5.00 and the tip is 18.00, making the total 123.00	The tax is 5.00 and the tip is 18.00, making the total 123.00	✔
✔	250	The tax is 12.50 and the tip is 45.00, making the total 307.50	The tax is 12.50 and the tip is 45.00, making the total 307.50	✔

Ex. No. : 2.6 **Date: 06.04.24**

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

Eligible to donate blood

AteamfromtheRotractclubhadplannedtoconductarallytocreateawarenessamongthe Coimbatorepeopletodonateblood.Theyconductedtherallysuccessfully.Manyofthe Coimbatorepeoplerealizeditandcameforwardtodonatetheirbloodtonearbybloodbanks.The eligibilitycriteriafordonatingbloodarepeopleshouldbeaboveorequalto18andhis/herweight shouldbeabove40.Therewasahugecrowdandstaffinthebloodbankfounditdifficultto managethecrowd.Sotheydecidedtokeepasystemandaskthepeopletoentertheirageand weightinthesystem.Ifapersoniseligiblehe/shewillbeallowedinside.

Writeaprogramandfeedittothesystemtofindwhetherapersoniseligibleornot.

InputFormat:

Inputconsistsoftwointegersthatcorrespondtotheageandweightofapersonrespectively.

OutputFormat:

DisplayTrue(IFELIGIBLE)

DisplayFalse(ifnoteligible)

SampleInput

19

45

SampleOutput

True

For example:

Input	Result
18 40	False

Program:

```
a=int(input())
b=int(input())
if(a>=18 and b>40):
    print("True")
else:
    print("False")
```

	Input	Expected	Got	
✔	19 45	True	True	✔
✔	18 40	False	False	✔
✔	18 42	True	True	✔
✔	16 45	False	False	✔

Ex. No. : 2.7 **Date: 06.04.24**

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

Birthday Party

Mr.X'sbirthdayisinnextmonth.ThistimeheisplanningtoinviteNofhisfriends.Hewantsto distributesomechocolatestoallofhisfriendsaftertheparty.Hewenttoashoptobuyapacketof chocolates.Atthechocolateshop,4packetsaretherewithdifferentnumbersofchocolates.He wantstobuysuchapacketwhichcontainsanumberofchocolates,whichcanbedistributed equallyamongallofhisfriends.HelpMr.Xtobuysuchapacket.

InputGiven:

N-Nooffriends

P1,P2,P3ANDP4-Noofchocolates

OUTPUT:

"True"ifhecanbuythatpacketand"False"ifhecan'tbuythatpacket.

SAMPLEINPUTANDOUTPUT:

5

25

12

10

9

OUTPUT

TrueFalseTrueFalse

For example:

Input	Result
5 25 23 20 10	TrueFalseTrueTrue

Program:

```
a=int(input())
b=[]
for i in range(4):
    c=int(input())
    b.append(c)
for i in range(4):
    if(b[i]%a==0):
        print("True",end=" ")
    else:
        print("False",end=" ")
```

	Input	Expected	Got	
✔	5 25 23 20 10	True False True True	True False True True	✔
✔	4 23 24 21 12	False True False True	False True False True	✔
✔	8 64 8 16 32	True True True True	True True True True	✔

Ex. No. : 2.8 **Date: 06.04.24**

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

Troy Battle

Inthe1800s,thebattleofTroywasledbyHercules.Hewasasuperstitiousperson.Hebelievedthat hiscrewcanwinthebattleonlyifthetotalcountoftheweaponsinhandisinmultipleof3andthe soldiersareinanevennumberofcount.Giventhetotalnumberofweaponsandthesoldier's count,Findwhetherthebattlecanbewonornotaccordingto Hercules'sbelief.Ifthebattlecanbe wonprintTrueotherwiseprintFalse.

Input format:

Line1hasthetotalnumberofweapons

Line2hasthetotalnumberofSoldiers.

Output Format:

IfthebattlecanbewonprintTrueotherwiseprintFalse.
SampleInput:

32

43

SampleOutput:'

False

For example:

Input	Result
32 43	False

Program:

```
a=int(input())
b=int(input())
if(a%3==0 and b%2==0):
   print("True")
else:
   print("False")
```

	Input	Expected	Got	
✔	32 43	False	False	✔
✔	273 7890	True	True	✔
✔	800 4590	False	False	✔
✔	6789 32996	True	True	✔

Ex. No. : 2.9 **Date: 06.04.24**

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

Compound Interest

Pretendthatyouhavejustopenedanewsavingsaccountthatearns4percentinterest peryear. Theinterestthatyouearnispaidattheendoftheyear,andisaddedtothe balanceofthesavings account.Writeaprogramthatbeginsbyreadingtheamountof moneydepositedintothe accountfromtheuser.Thenyourprogramshouldcompute anddisplaytheamountinthe savingsaccountafter1,2,and3years.Displayeach amountsothatitisroundedto2decimal places.

SampleInput:

10000

SampleOutput:

BalanceasofendofYear1:$10400.00.

BalanceasofendofYear2:$10816.00.

BalanceasofendofYear3:$11248.64

For example:

Input	Result
10000	BalanceasofendofYear1:$10400.00. BalanceasofendofYear2:$10816.00. BalanceasofendofYear3:$11248.64.

Program:

```
a=int(input())
b=a+a*0.04
c=b+b*0.04
d=c+c*0.04
print("Balance as of end of Year 1: ","$",format(b,".2f"),".",sep="")
print("Balance as of end of Year 2: ","$",format(c,".2f"),".",sep="")
print("Balance as of end of Year 3: ","$",format(d,".2f"),".",sep="")
```

	Input	Expected	Got	
✔	10000	Balance as of end of Year 1: $10400.00. Balance as of end of Year 2: $10816.00. Balance as of end of Year 3: $11248.64.	Balance as of end of Year 1: $10400.00. Balance as of end of Year 2: $10816.00. Balance as of end of Year 3: $11248.64.	✔
✔	20000	Balance as of end of Year 1: $20800.00. Balance as of end of Year 2: $21632.00. Balance as of end of Year 3: $22497.28.	Balance as of end of Year 1: $20800.00. Balance as of end of Year 2: $21632.00. Balance as of end of Year 3: $22497.28.	✔

Ex. No. : 2.10 **Date: 06.04.24**

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

C or D

Mr.Ramhasbeengivenaproblemkindlyhelphimtosolveit.Theinputoftheprogramiseither0or1. IF0istheinputheshoulddisplay"C"if1istheinputitshoulddisplay"D".Thereisaconstraintthat Mr. Ramshoulduseeitherlogicaloperatorsorarithmeticoperatorstosolvetheproblem,not anythingelse.

Hint: