

ASSIGNMENT 1

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DOMAIN:DATA SCIENCE

#program to accept integer data from the user during runtime

```
a=int(input("enter the first number"))
b=int(input("enter second number"))
c=a+b
print(a)
print(b)
print(c)
```

OUTPUT:

```
enter the first number 34
enter second number 2
34
2
36
```

#A program to accept float data from the user during runtime

```
a=float(input("enter the first number"))
b=float(input("enter second number"))
c=a+b
print(a)
print(b)
print(c)
```

OUTPUT:

```
enter the first number 54.3
enter second number 45.5
54.3
45.5
99.8
```

#A program to accept 3 subject marks and calculate total, average and print it

```
phy=int(input("enter physics marks"))
mat=int(input("enter maths marks"))
che=int(input("enter chemistry marks"))
tot=phy+mat+che
avg=tot/3
print(phy)
print(mat)
```

```

print(che)
print(tot)
print(avg)

enter physics marks 45
enter maths marks 78
enter chemistry marks90

45
78
90
213
71.0

```

#A program to accept 3 subject marks and calculate total, average and print it with appropriate message

```

phy=int(input("enter physics marks"))
mat=int(input("enter maths marks"))
che=int(input("enter chemistry marks"))
tot=phy+mat+che
avg=tot/3
print("physics marks=",phy)
print("maths marks=",mat)
print("chemistry marks=",che)
print("total=",tot)
print("average=",avg)

```

OUTPUT:

```

enter physics marks 45
enter maths marks67
enter chemistry marks90
physics marks= 45
maths marks= 67
chemistry marks= 90
total= 202
average= 67.33333333333333

```

#A program to accept any 2 names and print it

```

fn=input("enter first name")
ln=input("enter last name")
c=fn + ln
print("first name=",fn)
print("last name=",ln)
print("full name=",c)

```

Output:

```

enter first name Prathiksha
enter last name Baleri
first name= Prathiksha
last name= Baleri
full name= Prathiksha Baleri

```

#A program to accept and print complete marks sheet

```
rno=int(input("enter roll number"))
name=input("enter student name")
phy=int(input("enter physics marks"))
mat=int(input("enter maths marks"))
che=int(input("enter chemistry marks"))
tot=phy+mat+che
avg=tot/3
print("roll no=",rno);
print("student name=",name)
print("physics marks=",phy)
print("maths marks=",mat)
print("chemistry marks=",che)
print("total=",tot)
print("average=",avg)
```

OUTPUT:

```
enter roll number 44
enter student name PRATHIKSHA
enter physics marks 90
enter maths marks 92
enter chemistry marks 80
roll no= 44
student name= PRATHIKSHA
physics marks= 90
maths marks= 92
chemistry marks= 80
total= 262
average= 87.33333333333333
```

#Check if a person is eligible to vote or not

```
age=int(input("enter any age"))
if (age>=18):
    print("eligible to vote")
else:
    print("not eligible to vote")
```

enter any age 23

eligible to vote

enter any age 12

not eligible to vote

FIND HIGHEST NUMBER

```
a=int(input("enter first number"))
b=int(input("enter second number"))

if (a>b):
    print("the first number is highest")
else:
    print("the second number is highest")
```

enter first number 23

enter second number24

the second number is highest

enter first number 24

enter second number23

the first number is highest

#FIND THE SMALLEST NUMBER

```
a=int(input("enter first number"))
b=int(input("enter second number"))
if (a<b):
    print("the first number is smallest")
else:
    print("the second number is smallest")
```

enter first number 56

enter second number 1

the second number is smallest

enter first number1

enter second number34

the first number is smallest

```
#CHECK IF A NUMBER IS POSITIVE OR NEGATIVE
num=int(input("enter any number"))
if (num>0):
    print("positive number")
else:
    print("negative number")
```

enter any number 5

positive number

enter any number -5

negative number

#USE OF AND OPERATOR

#CHECK IF ELIGIBLE FOR ADMISSION

```
age=int(input("enter any age"))
avg=int(input("enter average"))
if (age>=18) and (avg>=70):
    print("eligible for admission")
else:
    print("not eligible for admission")
```

enter any age 34

enter average 56

not eligible for admission

USE OF &

```
age=int(input("enter any age"))
avg=int(input("enter average"))
if (age>=18) & (avg>=70):
    print("eligible for admission")
else:
    print("not eligible for admission")
```

enter any age67

enter average70

eligible for admission

```

#USE OF OR OPERATOR
#FIND IF ELIGIBLE FOR ADMISSION OR NOT

age=int(input("enter any age"))
avg=int(input("enter average"))
if (age>=18) & (avg>=70):
    print("eligible for admission")
else:
    print("not eligible for admission")

```

```

#USE OF | OPERATOR
avg=int(input("enter average marks"))
if (avg>=70)or(avg<=80):
    print("eligible for admission")
else:
    print("not eligible for admission")

```

```

#SELECTION BASED ON STRING AND OR OPERATOR
city=input("enter any city name")

if (city=="bangalore") or (city=="delhi"):
    print("selected")
else:
    print("not selected")

#USING AND OPERATOR
city=input("enter any city name")
age=int(input("enter any age"))
exp=int(input("enter experience"))

if (city=="bangalore") and (age<=30) &(exp>=5):
    print("selected")
else:
    print("not selected")

```

o/p	
enter any age 56	
enter average 89	
eligible for admission	
enter average marks88	
eligible for admission	
enter any age 15	
enter average78	
not eligible for admission	
enter average marks56	
eligible for admission	

o/p	
enter any city name delhi	
not selected	
enter any city name bangalore	
enter any age21	
enter experience5	
selected	

#PROGRAM TO FIND THE LARGEST AND SMALLEST OF 3 NUMBERS

```
print("Finding Largest number")
a=int(input("enter first number"))
b=int(input("enter second number"))
c=int(input("enter third number"))

if (a>b) & (a>c):
    print("the first number is highest")
elif (b>a) & (b>c):
    print("the second number is highest")
else:
    print("the third number is highest")

#Smallest number
print("Finding smallest number")
if (a<b) & (a<c):
    print("the first number is lowest")
elif((b<a) & (b<c)):
    print("the second number is lowest")
else:
    print("the third number is lowest")
```

```
Finding Largest number
enter first number 34
enter second number 45
enter third number 67
the third number is highest

Finding smallest number
the first number is lowest

Finding Largest number
enter first number1
enter second number2
enter third number0
the second number is highest

Finding smallest number
the third number is lowest
```

#FIND LARGEST OF 4 NUMBERS

```
print("Program to find largest of 4 numbers")
n1=int(input("Enter 1st no"))
n2=int(input("Enter 2nd no"))
n3=int(input("Enter 3rd no"))
n4=int(input("Enter 4th no"))
if(n1>n2 and n1>n3 and n1>n4):
    print("1st no is largest")
elif (n2>n3 and n2>n4):
    print("2nd no is largest")
elif(n3>n4):
    print("3rd no is largest")
```

```
Program to find largest of 4 numbers
Enter 1st no 1
Enter 2nd no 2
Enter 3rd no 3
Enter 4th no 4
4th no is largest
```

```
else:  
    print("4th no is largest")
```

```
#program to find highest and 2nd highest of 3 numbers
```

```
n1=int(input("Enter 1st no"))  
n2=int(input("Enter 2nd no"))  
n3=int(input("Enter 3rd no"))  
if n1>n2 and n1>n3:  
    print("1st no is highest")  
    if n2>n3:  
        print("2nd no is 2nd highest")  
    else:  
        print("3rd no is 2nd highest")  
elif n2>n3:  
    print("2nd no is highest")  
    if n1>n3:  
        print("3rd no is second highest")  
    else:  
        print("4th no is second highest")  
else:  
    print("3rd no is highest")  
    if n1>n2:  
        print("1st no is second highest")  
    else:  
        print("2nd no is second highest")
```

```
Enter 1st no 1  
Enter 2nd no 2  
Enter 3rd no 3  
3rd no is highest  
2nd no is second highest
```

```
# Program to find highest and 2nd highest of 4 numbers
```

```
n1 = int(input("Enter 1st no: "))  
n2 = int(input("Enter 2nd no: "))  
n3 = int(input("Enter 3rd no: "))  
n4 = int(input("Enter 4th no: "))  
if n1 > n2 and n1 > n3 and n1 > n4:  
    print("1st no is highest")  
    if n2 > n3 and n2 > n4:  
        print("2nd no is 2nd highest")  
    elif n3 > n4:
```

```
Enter 1st no: 45  
Enter 2nd no: 78  
Enter 3rd no: 90  
Enter 4th no: 105  
4th no is highest  
3rd no is 2nd highest
```

```

        print("3rd no is 2nd highest")
else:
    print("4th no is 2nd highest")
elif n2 > n1 and n2 > n3 and n2 > n4:
    print("2nd no is highest")
if n1 > n3 and n1 > n4:
    print("1st no is 2nd highest")
elif n3 > n4:
    print("3rd no is 2nd highest")
else:
    print("4th no is 2nd highest")
elif n3 > n1 and n3 > n2 and n3 > n4:
    print("3rd no is highest")
if n1 > n2 and n1 > n4:
    print("1st no is 2nd highest")
elif n2 > n4:
    print("2nd no is 2nd highest")
else:
    print("4th no is 2nd highest")
else:
    print("4th no is highest")
if n1 > n2 and n1 > n3:
    print("1st no is 2nd highest")
elif n2 > n3:
    print("2nd no is 2nd highest")
else:
    print("3rd no is 2nd highest")

```

```

#Find the highest and smallest of 4 nos
n1=int(input("Enter 1st no"))
n2=int(input("Enter 2nd no"))
n3=int(input("Enter 3rd no"))
n4=int(input("Enter 4th no"))
print("Finding large value")
if(n1>n2 and n1>n3 and n1>n4):
    print("1st no is highest")
elif (n2>n3 and n2>n4):

```

Enter 1st no: 50
 Enter 2nd no: 51
 Enter 3rd no: 34
 Enter 4th no: 2
 2nd no is highest
 1st no is 2nd highest

Enter 1st no: 50
 Enter 2nd no: 5
 Enter 3rd no: 3
 Enter 4th no: 2
 1st no is highest
 2nd no is 2nd highest

Enter 1st no 34
 Enter 2nd no 45
 Enter 3rd no 67
 Enter 4th no 89
 Finding large value
 4th no is highest
 finding small value
 1st no is smallest

```

print("2nd no is highest")
elif(n3>n4):
    print("3rd no is highest")
else:
    print("4th no is highest")
print("finding small value")
if(n1<n2 and n1<n3 and n1<n4):
    print("1st no is smallest")
elif (n2<n3 and n2<n4):
    print("2nd no is smallest")
elif(n3<n4):
    print("3rd no is smallest")
else:
    print("4th no is smallest")

```

Enter 1st no 56
 Enter 2nd no 78
 Enter 3rd no 4
 Enter 4th no 3
 Finding large value
 2nd no is highest
 finding small value

Conditional statements

```

#print from 1 -10
for i in range(1,10):
    print(i)

```

1
 2
 3
 4
 5
 6
 7
 8
 9

#FOR PRINTING NUMBERS FROM 1 - 10 , WE HAVE TO SPECIFY 1 - 11 IN THE FOR LOOP

```
for i in range(1,11):  
    print(i)
```

1
2
3
4
5
6
7
8
9
10

#PRINTING EVEN NUMBERS FROM 20 - 50 with gap of 2 numbers

```
for i in range(20,51,2):  
    print(i)
```

20
22
24
26
28
30
32
34
36
38
40

```
42  
44  
46  
48  
50
```

```
#printing odd numbers  
for i range(19,51,2):  
    print(i)
```

```
19  
21  
23  
25  
27  
29  
31  
33  
35  
37  
39  
41  
43  
45  
47  
49
```

```
#printing multiples of 5 till 50  
for i in range(5,51,5):  
    print(i)
```

```
5  
10  
15  
20  
25  
30  
35  
40  
45  
50
```

```
#printing multiples of 10 till 100  
for x in range(10,110,10):  
    print(x)
```

```
10  
20  
30  
40  
50  
60  
70  
80  
90  
100
```

```
#printing numbers from 10 - 1 --> descending order  
for x in range(10,1,-1):  
    print(x)
```

10
9
8
7
6
5
4
3
2

```
#printing even numbers from 50 - 20 in reverse order  
for x in range(50,21,-2):  
    print(x)
```

50
48
46
44
42
40
38
36
34
32
30

```
28  
26  
24  
22
```

```
#printing multiples of 5 from 50 - 5 in reverse order  
for x in range(50,0,-5):  
    print(x)
```

```
50  
45  
40  
35  
30  
25  
20  
15  
10  
5
```

```
#printing multiples of 10 from 100 - 10 in reverse order  
for x in range(100,0,-10):
```

```
    print(x)
```

```
100  
90  
80  
70
```

```
60  
50  
40  
30  
20  
10
```

```
#printing names 10 times
```

```
for i in range(1,11):  
    print("Prathiksha")
```

```
Prathiksha  
Prathiksha  
Prathiksha  
Prathiksha  
Prathiksha  
Prathiksha  
Prathiksha  
Prathiksha  
Prathiksha  
Prathiksha
```

```
#printing name with serial number
```

```
for i in range(1,11):  
    print(i,"Prathiksha")
```

```
1 Prathiksha  
2 Prathiksha  
3 Prathiksha  
4 Prathiksha  
5 Prathiksha  
6 Prathiksha  
7 Prathiksha  
8 Prathiksha  
9 Prathiksha  
10 Prathiksha
```

```
#printing any name with serial number  
name=input("enter any name")  
for i in range(1,11):  
    print(i," ",name)
```

```
enter any name prathiksha  
1     prathiksha  
2     prathiksha  
3     prathiksha  
4     prathiksha  
5     prathiksha  
6     prathiksha  
7     prathiksha  
8     prathiksha  
9     prathiksha  
10    prathiksha
```

```
#While loop
```

```
i=1  
while(i<=10):  
    print(i)  
    i=i+1
```

```
1  
2  
3  
4  
5  
6  
7  
8  
9  
10
```

```
i=5  
while(i<=50):  
    print(i)  
    i=i+5
```

```
5  
10  
15  
20  
25  
30  
35
```

```
40  
45  
50
```

```
i=10  
while(i<=100):  
    print(i)  
    i=i+10
```

```
10  
20  
30  
40  
50  
60  
70  
80  
90  
100
```

```
i=50  
while(i>=20):  
    print(i)  
    i=i-2
```

```
50  
48  
46  
44  
42
```

```
40  
38  
36  
34  
32  
30  
28  
26  
24  
22  
20
```

```
i=10  
while(i>=1):  
    print(i)  
    i=i-1
```

```
10  
9  
8  
7  
6  
5  
4  
3  
2  
1
```

```
for i in range(10):
    print(i,end = ' ')
```

```
0 1 2 3 4 5 6 7 8 9
```

```
n = int(input("Enter the number "))
for i in range(1,11):
    c = n*i
    print(n,"*",i,"=",c)
```

```
7 * 1 = 7
7 * 2 = 14
7 * 3 = 21
7 * 4 = 28
7 * 5 = 35
7 * 6 = 42
7 * 7 = 49
7 * 8 = 56
7 * 9 = 63
7 * 10 = 70
```

```
for i in range(2,n,2):
    print(i)
```

```
2
4
6
```

```
for i in range(0,5):
```

```
print(i)
else:
    print("for loop completely exhausted, since there is no break.")
```

```
0
1
2
3
4
for loop completely exhausted, since there is no break.
```

```
# Iterating string using for loop
str = "Python"
for i in str:
    print(i)
```

```
P
y
t
h
o
n
```

