**Assignment- 1**

1. What is a loop? What are the looping constructs available in Python?
2. What is the main difference between a for loop and a while loop?
3. When does the else clause of a loop get executed? Is else clause mandatory in a loop?
4. What is the use of break and continue statements in a loop? Give a suitable example to explain.
5. What is an infinite loop? Give an example of an infinite loop.
6. What is meant by nesting of loops? Give a suitable example to explain.
7. Each of the following code segments is written to perform the job specified in the respective comment. Check each of these code segments and make the necessary changes to correct the code:
   1. #To display "Hello" 10 times for for i in range(1, 10):

print("Hello")

* 1. #To print first 10 natural numbers

i=1

while(i==10): print("i")

i+=1

* 1. #To display first 10 even natural numbers num=1

while (num<=10): print(num)

num+=1

* 1. #To display first 10 odd natural numbers for i in range (10):

print(i)

* 1. #To calculate DA as 10% of basic salary for 10 employees basic=input("Enter basic salary")

da=10\*basic

print("DA =",da)

1. Find syntax error(s), if any, in each of the following code segments:
   1. a=int(input("Enter a number: "))

c==1

for b in range (a,a\*10.0,a)

c=\*b

print(a,b,c)

* 1. a=int(input("Enter a number: ")) b=int(input("Enter another number: ")) **start,end=a,b**

if a>b:

start,end=b,a

i=start

while i=<end

if (i%start=0):

print(i,end='--',start)

i+=1

print(i)

* 1. a=int(input("Enter a number: ") b=int(input("Enter another number: ")

if a>b:

step = -1

else:

step = 1

while a!=b:

if (a+b%2>0):

print(a+b,sep="--')

a=+step

* 1. a=int(input("Enter a number: ")

while a%5!=0

if (a%2>0):

print(a,sep="--)

a+=1

else:

print(a)

(v) x=123045

while x%10:

x=//10

print(x,sep="--")

else:

print(a)

(vi) x=123045

while x%10:

d=x%10

for i in range(d):

print(i)

else:

print (d)

print(x,sep='--')

x/=10

else:

print(a)

1. Find output generated by each of the following scripts:
   1. a=4 c=0

for b in range (a,a\*a,a):

c+=b

print(a,b,c)

* 1. #Find output for (i)a,b=4,10 (ii) a,b=2,-4

a=int(input("Enter a number: "))

b=int(input("Enter another number: "))

**start,end = a,b**

if a>b:

start,end=b,a

i=start

while i<=end:

if (i%start==0): print(i,end='--')

i+=1

print(i)

* 1. a=10 b=a-6

if a>b:

step=-1

else:

step=1

while a!=b:

if (a+b%2>0):

print(a+b,sep="--")

a+=step

* 1. #Find output for (i)a=10 (ii) a=-6

a=int(input("Enter a number: "))

while a%5!=0:

if (a%2>0):

print(a,sep="--")

a+=1

else:

print(a)

(v) x=123045

while x%10:

x//=10

print(x,sep="--")

else:

print(x)

(vi) x=123045

while x%10:

d=x%10

for i in range(d):

print(i)

else:

print (d)

print(x,sep='--')

x//=10