Assignment No.3

Q1.

```
#WAP to check if the given number is positive or negative
num = int(input("Enter a number:"))
if(num > 0):
    print(f'{num} is a positive number')
else:
    print(f'{num} is a negative number')
```

Q2.

```
#WAP to input any alphabet and check whether it is vowel or consonant.
letter = input("Enter a letter in alphabet:")
if letter in ('a','e','i','o','u'):
    print("It is a vowel")
else:
    print("It is a consonant")
```

Q3.

```
#WAP to input angles of a triangle and check whether triangle is valid or not
side1=int(input("Enter angle of side 1:"))
side2=int(input("Enter angle of side 2:"))
side3=int(input("Enter angle of side 3:"))
if(side1+side2+side3==180):
    print("Triangle is valid")
else:
    print("Triangle is not valid")
```

Q4.

```
#WAP to input all sides of triangle and check whether triangle is valid or not
a=int(input("Enter side 1:"))
b=int(input("Enter side 2:"))
c=int(input("Enter side 3:"))
if(a+b>c and a+c>b and b+c>a):
    print("Triangle is valid")
else:
    print("Triangle is invalid")
```

Q5.

```
#WAP to check whether the triangle is equilateral,isosceles or scalene triangle
x=int(input("Enter side 1:"))
y=int(input("Enter side 2:"))
z=int(input("Enter side 3:"))
if(x==y==z):
    print("Equilateral triangle")
elif(x==y or y==z or z==x):
    print("Isosceles triangle")
else:
    print("Scalene triangle")
```

Q6.

```
#WAP to calculate profit or loss
cost_price=int(input("Enter cost price:"))
selling_price=int(input("Enter selling price:"))
if(cost_price<selling_price):
    print("Shopkeeper has profit")
else:
    print("Shopkeeper has loss")
```

Q7.

```
#WAP to check if person is eligible to marry or not(male age>=21 and female age>=18)
age=int(input("Enter your age:"))
gender=input("Enter gender:")
if(gender=='male'):
    if(age>=21):
        print("male is eligible to marry")
    else:
        print("male is not eligible to marry")
else:
    if(age>=18):
        print("female is eligible to marry")
    else:
        print("female is not eligible to marry")
```

Q8.

```
#WAP to check if user has correct userid and password
user=int(input("Enter a userid:"))
password=(input("Enter a password:"))
if(user==1234 or password=='Dipali' ):
    print("Correct userid and password")
else:
    print("Invalid input")
```

Q9.

```
#Input 5 subject marks from user and display grade(eg.first class,second class.....)
m1=int(input("Enter marks for subject 1:"))
m2=int(input("Enter marks for subject 2:"))
m3=int(input("Enter marks for subject 3:"))
m4=int(input("Enter marks for subject 4:"))
m5=int(input("Enter marks for subject 5:"))
```

```
total=m1+m2+m3+m4+m5
#print(total)
percentage=(total/5)
#print(percentage)
if(percentage>=90):
    print("First class : Grade A")
elif(percentage>=80  and percentage<=90):
    print("Second class : Grade B")
elif(percentage>=70 and percentage<=80):
    print("Lower second class : Grade C")
elif(percentage>=60 and percentage<=70):
    print("Third class : Grade D")
else:
    print("Grade F")
```

Q10.

```
#WAP to check if given 3 digit number is palindrome or not
num = int(input("Enter number:"))
a=num
if(num>0):
    d1 = num % 10
    num = num // 10
    #print(d1)
    d2 = num % 10
    num = num // 10
    #print(d2)
    d3 = num % 10
    #print(d3)
    rev=(d1*100)+(d2*10)+(d3)
    #print(rev)
```

```
    if(a==rev):
        print("It is a palindrome number")
    else:
        print("It is not palindrome number")
```

Q11.

#WAP to prompt user to enter userid and password.After verifying userid and password display a 4 digit random number and ask user to enter the same.if user enters the same number then show himsuccess message otherwise failed.(something like captcha)

```
import random
userid=int(input("Enter userid:"))
password=input("Enter password:")
if(userid==12345 or password=="dipali"):
    print("Success! captcha matched.")
    captcha = random.randint(1111,9999)
    print("captcha",captcha)
else:
    print("Failed! captcha did not mtched,'try again'.")
```

Q12.

#Accept age of five people and also per person ticket amount and then calculate total amount to ticket to travel for all of them based on following conditions:a.children below 12=30% discount b.senoir citizen (above 59)=50% discount c. others need to pay full

```
#person1
age1=int(input("Enter 1st person age:"))
amount1=float(input("Enter 1st person ticket amount:"))
if(age1 < 12):
    amount1=amount1-(amount1*0.3)
elif(age1 > 59):
    amount1=amount1-(amount1*0.5)
#person2
age2=int(input("Enter 2nd person age:"))
```

```
amount2=float(input("Enter 2nd person ticket amount:"))
if(age2 < 12):
    amount2=amount2-(amount2*0.3)
elif(age2 > 59):
    amount2=amount2-(amount2*0.5)
#person3
age3=int(input("Enter 3rd person age:"))
amount3=float(input("Enter 3rd person ticket amount:"))
if(age3 < 12):
    amount3=amount3-(amount3*0.3)
elif(age3 > 59):
    amount3=amount3-(amount3*0.5)
#person4
age4=int(input("Enter 4th person age:"))
amount4=float(input("Enter 4th person ticket amount:"))
if(age4 < 12):
    amount4=amount4-(amount4*0.3)
elif(age4 > 59):
    amount4=amount4-(amount4*0.5)
#person5
age5=int(input("Enter 5th person age:"))
amount5=float(input("Enter 5th person ticket amount:"))
if(age5 < 12):
    amount5=amount5-(amount5*0.3)
elif(age5 > 59):
    amount5=amount5-(amount5*0.5)

total_bill= amount1 + amount2 + amount3 + amount4 + amount5
print("Total bill:",total_bill)
```

Q13.

#WAP to input electricity unit charges and calculate total electricity bill according to the given conditions:

#a.for first 50 units Rs.0.50/unit

#b.for next 100 units Rs.0.75/unit

#c.for next 100 units Rs.1.20/unit

#d.for unit above 250 Rs.1.50/unit

#an additional surcharge of 20% is added to the bill

```
unit=int(input("Enter electricity unit charges:"))
if(unit<=50):
    unit=unit*0.50
elif(unit<=150):
    unit=(50*0.50)+((unit-50)*0.75)
elif(unit<=250):
    unit=(50*0.50)+(100*0.75)+((unit-150)*1.20)
else:
    unit=(50*0.50)+(100*0.75)+(100*1.20)+((unit-250)*1.50)
surcharge=unit*20/100
total=unit+surcharge
print("Electricity bill is",total)
```