Assignment No.05

Q.1#wap to prompt user to enter userid and password if id and password is incorrect give him to chance

#to reenter the credential let him try 3 times.after that program terminate

```
count=0
while(count<3):
    user_id=int(input("Enter user id:"))
    password=input("Enter password:")
    if(user_id==1828 and password=='pragati'):
        print("You have successfully logged in.")
        break
    count=count+1
if(count==3):
    print("Too many failed attempts,Program terminated")
```

Q.2.#Enter number of students from user.for those many students accept marks of 5 subject marks from user and calculate

#percentage.Display all percentage and average percentage of students.

```
number_of_stud=int(input("Enter number of students:"))
for i in range(1,number_of_stud+1):
    print("Enter marks of students:",i)
    total=0
    for stud in range(1,6):
        marks=int(input("Enter marks of subjects:"))
        total=total+marks
        percentage=(total/500)*100
        average_percentage=total/5
print(f'Total marks of students:{total}')
print(f'Percentage of student:{percentage}')
print(f'Average percentage of student:{average_percentage}')
```

Q.3.#Accept no. of passengers from user and per ticket cost. Then accept age of each

#passenger and then calculate total amount to ticket to travel for all of them based on

#following condition :

#a. Children below 12 = 30% discount

#b. Senior citizen (above 59) = 50% discount

#c. Others need to pay full.

```
num_of_passenger=int(input("Enter number of passenger:"))
```

```python
ticket_cost=float(input("Enter cost per ticket:"))
total_cost=0
for i in range(1,num_of_passenger+1):
    age=int(input(f'Enter age of passenger {i}:'))
    if(age<12):
        cost=ticket_cost-(ticket_cost*0.3)
    elif(age>59):
        cost=ticket_cost-(ticket_cost*0.5)
    else:
        cost=ticket_cost
    total_cost=total_cost+cost
    print(total_cost)
print(f'Total ticket cost for all passenger: {total_cost}')
```

Q.4.#Write a program to check if given number is Armstrong number or not.
#(Hint : 153 = 1*1*1 + 5*5*5 + 3*3*3 , 1634 = 1*1*1*1 + 6*6*6*6 + 3*3*3*3 +
#4*4*4*4)

```python
num=int(input("Enter number:"))
sum=0
temp=num
while(temp>0):
    d=temp%10
    sum=sum+d**3
    temp=temp//10
if(num==sum):
    print("Number is Armstrong.")
else:
    print("Number is not Armstrong number.")
```

Q.5.#Write a program to accept an integer amount from user and tell minimum
#number of notes needed for representing that amount. (Use looping to optimize
#the problem)

```python
note_count=[2000,500,200,100,50,20,10]
amount=int(input("Enter the amount:"))
print("\nMinimum number of notes needed:")

for note in note_count:
    count=0
```

```python
        while(amount>=note):
            amount-=note
            count+=1
        if(count>0):
            print(f'notes of {note}= {count}')
```

Q.6.#WAP to print prime numbers between 1 to 100

```python
for num in range(2,100):
    for i in range(2,num//2+1):
        if(num%i==0):
            break
    else:
        print(num,end=' ')
```

Q.7.#WAP to print first n prime numbers.

```python
n=int(input("Enter how many prime numbers you want:"))
count=0
num=2
while(count<n):
    for i in range(2,num//2+1):
        if(num%i==0):
            break
    else:
        print(num,end=' ')
        count=count+1
    num=num+1
```

Q.8.#WAP to solve the folling series:

```python
#a.1!+2!+3!+4!........n!
n=int(input("Enter the value of n:"))
factorial_sum=0

for i in range(1,n+1):
    factorial=1
    for j in range(1,i+1):
        factorial*=j
        print(factorial)
    factorial_sum+=factorial
```

```python
print(factorial_sum)


# b. N + N^2 + N^3 + N^4......+ N^N
n=int(input("Enter number:"))
total=0
for i in range(1,n+1):
    total=total+n**i
print("Sum is:",total)



#c.Find the sum of geometric series from 1 to n where the common ratio is 2.
num=int(input("Enter number of series:"))
sum=2**num-1
print(sum)
print(f"The sum of geometric series is:{sum}")


#d.
#S=a + a^2/2 + a^3/3 + ......+ a^10/10
a=float(input("Enter value of a:"))
sum=0
for i in range(1,11):
    power=1
    for j in range(i):
        power*=a
    sum=sum+power/i
    print(f"The sum of the series is: {sum}")


# x- x^2/3 + x^3/5 - x^4/7 + ......to n terms
x=float(input("Enter value of x:"))
n=int(input("Enter valiue of n:"))
s=0
sign=1
denominator=1

for i in range(1,n+1):
    power=1
    for j in range(i):
        power*=x
```

```python
        term=sign*(power/denominator)
        s=s+term
        sign*=-1
        denominator=denominator+2
print(f'The sum of the series up to {n} term is:{s}')
```