ASSIGNMENT-8-WHILE LOOP

In [ ]:
```
#1Q) For example
# take a random number between  1 to 100
# print it is a even number and odd number
# you need to generate 3 random number
```

In [ ]:
```
import random
i=0
while(i<3):
    num=random.randint(1,10)
    if num%2==0:
        print(f"{num} is even num")
    else:
        print(f"{num} is odd")
    i=i+1
```

In [ ]:
```
#2Q) wap ask the user print the number is even or odd between 10 to 20
```

In [ ]:
```
i=10
while(i<20):
    if i%2==0:
        print(f"{i} is evn")
    else:
        print(f"{i} is odd")
    i=i+1
```

In [ ]:
```
#3Q) wap ask the user print the square of the number between
# 20 to 25
```

In [ ]:
```
i=20
while i<25:
    sq=i*i
    print(f"square of {i} is {sq}")
    i=i+1
```

In [ ]:
```
#4Q) WAP ask the user enter number three times find the square of the number
# How many times loop should run
```

In [ ]:
```
i=0
while(i<3):
    num=eval(input("enter a number:"))
    sq=num*num
    print(f"square of {num} is {sq}")
    i=i+1
```

In [ ]:
```
#5Q) Print the 14th table
# ans:   14 x 1 = 14
#        14 x 2 = 28
#        14 x 3 = 42
#
```

```
#
#        14 x10 = 140
```

In [ ]:
```
i=1
num=eval(input("enter a number to form multiplication table:"))
while i<11:
    value=num*i
    print(f"{num}x{i}={value}")
    i=i+1
```

In [ ]:
```
#6 Q) Find the factors of 75
```

In [ ]:
```
i=1
num=eval(input("enter a number:"))
while(i<76):
    if num%i==0:
        print(f"divisors of {num} are:{i}")
    i=i+1
```

In [ ]:
```
#7Q) Write the sum of first 10 Natural numbers
# 1 to 10
# 1+2+3+4+5+6+7+8+9+10=55
```

In [5]:
```
i=1
sum=0
while i<11:
    sum=sum+i
    i=i+1
print(f"sum of first 10 natural numbers is {sum}")
```

```
sum of first 10 natural numbers is 55
```

In [ ]:
```
# 8Q) Average first 1 to 10 numbers
# avg= summation of all the numbers/total number
#Wap to find the average of ' N ' numbers in Python.
```

In [4]:
```
i=1
sum=0
num=eval(input("enter a number:"))
while i<11:
    sum=sum+i
    avg=sum/num
    i=i+1
print(f'average of first 10 natural numbers is:{avg}')
```

```
average of first 10 natural numbers is:5.5
```

In [ ]:
```
#9Q) Find the number of divisors of 75
# ans: 1,3,5,15,25,75
# Number =6
```

In [2]:
```
n=eval(input("enter a number:"))
count=0
i=1
while i<76:
```

```
    if n%i==0:
        count=count+1
    i=i+1
print(f"the number of divisors of {n} is {count}")
```

```
the number of divisors of 75 is 6
```

In [ ]:
```
# 10Q)
# Get a random number between  1 to 10 :  num1
# Ask the user enter a number : num2
# if num1 == num2  then print won
# else print fail
#case-1
```

In [12]:
```
import random
num1=random.randint(1,10)
num2=eval(input("enter a number:"))
if num1==num2:
    print("won")
else:
    print("fail")
```

```
fail
```

In [ ]:
```
# 10Q)
# Get a random number between  1 to 10 :  num1
# Ask the user enter a number : num2
# if num1 == num2  then print won
# else print fail
# Give 3 chances

# Case-2: whenever you won the code should stop
```

In [15]:
```
import random
num1=random.randint(1,10)
i=0
while i<3:
    num2=eval(input("enter a number:"))
    if num1==num2:
        print("won")
        break
    else:
        print("fail")
    i=i+1
```

```
fail
won
```

In [ ]:
```
# 10Q)
# Get a random number between  1 to 10 :  num1
# Ask the user enter a number : num2
# if num1 == num2  then print won
# else print fail

# Case-3:
# Suppose i want to give 4 chances
# Every time you fail I want to display
```

```
#      Number of chances left

# If all the chances you are used
#    Try again after 24 hours

# If you are win
```

In [19]:
```
i=0
num1=random.randint(1,10)
while i<4:
    num2=eval(input("enter num2:"))
    if num1==num2:
        print("won")
        break;
    else:
        print("fail")
        print(f"number of chances left are {3-i}")
    if 3-i==0:
        print("Try again after 24 hours")
    i=i+1
```

```
fail
number of chances left are 3
fail
number of chances left are 2
fail
number of chances left are 1
fail
number of chances left are 0
Try again after 24 hours
```

In [ ]:
```
11q)# wap ask the user get 5 random numbers
# Get it is an even number or odd number
# also count how many even numbers are there
# and  count how many odd numbers are there

# Idea
# take two counters one even and odd count
# For loop 5 times
# each time take the random number
# If condition
#    True counter update
# else
#   Update the counter
```

In [28]:
```
i=0
even_count=0
odd_count=0
while i<5:
    num=random.randint(1,10)
    print(num)
    if num%2==0:
        even_count=even_count+1
    else:
        odd_count=odd_count+1
    i=i+1
```

```
print(f"count of even numbers is {even_count}")
print(f"count of odd numbers is {odd_count}")
```

```
1
5
6
4
2
count of even numbers is 3
count of odd numbers is 2
```

In [ ]:
```
12Q) # wap ask the user get 5 random numbers
# Get it is an even number or odd number
# also count how many even numbers are there
# and  count how many odd numbers are there
# I want summ even numbers
# I want summ odd numbers
```

In [33]:
```
i=0
even_count=0
odd_count=0
even_sum=0
odd_sum=0
while i<5:
    num=random.randint(1,10)
    print(num)
    if num%2==0:
        even_count=even_count+1
        even_sum=even_sum+num
    else:
        odd_count=odd_count+1
        odd_sum=odd_sum+num
    i=i+1
print(f"count of even numbers is {even_count}")
print(f"count of odd numbers is {odd_count}")
print(f"sum of even numbers is {even_sum}")
print(f"sum of odd numbers is {odd_sum}")
```

```
3
4
6
8
7
count of even numbers is 3
count of odd numbers is 2
sum of even numbers is 18
sum of odd numbers is 10
```

In [ ]:
```

```