While Loop, For loop and Function

While loop & Control Statements :

In [8]:
```
import random

# Generate random number between 1 and 10
secret_number = random.randint(1, 10) # selecting the secret_number
attempts = 3

while attempts > 0: # while is using for thr attempts calculations
    user_input = int(input("Guess the secret number (1 to 10): "))

    if user_input == secret_number: # Comparing to the screate number
        print("Congratulations! You guessed the correct number")
        print("Number of attempts left:", attempts)
        break

    elif user_input > secret_number and user_input <= 10: # comparing to the secret number whether it's greater
        attempts -= 1
        print("Too high. Try again")
        print("Number of attempts left:", attempts)
        continue

    elif user_input < secret_number and user_input >= 1: # comparing to the secret number whether its lessthan
        attempts -= 1
        print("Too small. Try again")
        print("Number of attempts left:", attempts)
        continue

    else: # comparing to the secret number whether its out of range
        attempts -= 1
        print("Your guess is out of range. Please guess a number between 1 and 10")
        print("Number of attempts left:", attempts)

if attempts == 0: # checking the number of attempts
    print("You have tried multiple times. Please try again later.")
```

```
Too high. Try again
Number of attempts left: 2
Your guess is out of range. Please guess a number between 1 and 10
Number of attempts left: 1
Too high. Try again
Number of attempts left: 0
You have tried multiple times. Please try again later.
```

For Loop:

In [17]:
```
table_name = int(input("Enter the number for which you want the multiplication table: ")) # getting the input f

answer = 0
for num in range(1,11): # using the for loop for iteration
    answer = table_name * num
    print(f"{table_name} x {num} = {answer}")  # printing the table
```

```
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
```

Function:

In [24]:
```
#BMI Calculator

kg = int(input("Enter your weight in kg: ")) # getting the kg from user
meters = float(input("Enter your height in meters: ")) # getting the height form user
BMI = kg / (meters ** 2) # calutaing the IBM

print(f"Your BMI is: ",BMI) # printing the IBM
```

```
Your BMI is:  20.957171162932475
```

In [ ]: