1.Write a Python program that takes two floating number from the user and show the sum of the number using Function.

```
def add_numbers(a, b):
    """
    This function takes two floating-point numbers and returns their sum.
    """
    return a + b

# Get two floating-point numbers from the user
num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))

# Call the add_numbers function to get the sum
result = add_numbers(num1, num2)

# Display the result
print("The sum of", num1, "and", num2, "is", result)
```

2. Write a Python program that takes the user's five integer numbers and shows the largest and smallest number.

```
# Get five integers from the user
num1 = int(input("Enter the first number: "))
num2 = int(input("Enter the second number: "))
num3 = int(input("Enter the third number: "))
num4 = int(input("Enter the fourth number: "))
num5 = int(input("Enter the fifth number: "))

# Find the largest and smallest numbers using max() and min() functions
largest = max(num1, num2, num3, num4, num5)
smallest = min(num1, num2, num3, num4, num5)

# Display the largest and smallest numbers
print("The largest number is:", largest)
print("The smallest number is:", smallest)
```

3. Write down the functions Sum() ,Subtraction(), Multiplication() and Division() which takes two numbers as floating types .

```
def Sum(a, b):
    """
    This function takes two floating-point numbers and returns their sum.
    """
    return a + b

def Subtraction(a, b):
    """
    This function takes two floating-point numbers and returns their difference.
    """
    return a - b

def Multiplication(a, b):
    """
    This function takes two floating-point numbers and returns their product.
    """
    return a * b

def Division(a, b):
    """
    This function takes two floating-point numbers and returns their quotient.
    """
    return a / b

# Get two floating-point numbers from the user
num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))

# Call the Sum() function to get the sum
sum_result = Sum(num1, num2)

# Call the Subtraction() function to get the difference
sub_result = Subtraction(num1, num2)

# Call the Multiplication() function to get the product
mul_result = Multiplication(num1, num2)

# Call the Division() function to get the quotient
div_result = Division(num1, num2)
```

```
# Display the results
print("The sum of", num1, "and", num2, "is", sum_result)
print("The difference between", num1, "and", num2, "is", sub_result)
print("The product of", num1, "and", num2, "is", mul_result)
print("The quotient of", num1, "and", num2, "is", div_result)
```

4.Suppose you need to write a program to take a survey of university student extracurricular activities. Now you can use IF ELSE statement to do this :
->If a user inputs “brilliant” then show “The Student is more active and sincere”.
->If a user inputs “better” then show “The Student is trying join extra curricular activities”.
->If a user inputs “good” then show “The Student is learn about extra curricular activities”.
->If a user inputs “Nothing” then show “The Student is not join any extra curricular activities Yet”.

```
# take user input for extracurricular activities
activity = input("Enter your extracurricular activities: ")

# check the value of activity and print a message based on it
if activity.lower() == "brilliant":
    print("The student is more active and sincere")
elif activity.lower() == "better":
    print("The student is trying to join extracurricular activities")
elif activity.lower() == "good":
    print("The student is learning about extracurricular activities")
elif activity.lower() == "nothing":
    print("The student has not joined any extracurricular activities yet")
else:
    print("Invalid input")
```

5.Write a Python program that contains an array and show the value in descending order. [In the array keep any ten values]

```
# create an array with ten values
arr = [6, 11, 2, 0, 1, 6, 16, 6, 6, 3]

# sort the array in descending order
arr.sort(reverse=True)

# print the sorted array
```

```
print("Array in descending order:")
for num in arr:
    print(num)
```

6.Write a Python program which find out the student grade system-Marks Grade
80 or Above A+
75-79 A

70-74 A-
65-69 B+

60-64 B-
55-59 D

50-54 C
Below 40 F
Note : Marks are given by the user.

```
# take input for student's marks
marks = int(input("Enter student's marks: "))

# check the value of marks and assign grade based on it
if marks >= 80:
    grade = "A+"
elif marks >= 75:
    grade = "A"
elif marks >= 70:
    grade = "A-"
elif marks >= 65:
    grade = "B+"
elif marks >= 60:
    grade = "B-"
elif marks >= 55:
    grade = "D"
elif marks >= 50:
    grade = "C"
else:
    grade = "F"

# print the grade
print("Student's grade is:", grade)
```

7. Write a Python program to find odd numbers between the 1 to 200.

```
# loop through the numbers from 1 to 200
for i in range(1, 201):
    # check if the number is odd
    if i % 2 != 0:
        # print the odd number
        print(i)
```

8. Write a Python program that takes a age input from the user & alert a message if the user input less than 18 then it will alert “Age must be greater than or equal 18”.

```
# Get input from the user
age = int(input("Enter your age: "))

# Check if age is less than 18
if age < 18:
    print("Age must be greater than or equal 18.")
```

9. Write a Python program that will take an input from user as an age. So, check whether the number is greater than or equal to 50 or not. If user submits the button without entering age then it shows “The field is empty”.
[The number must be taken from the keyboard by user]
Sample Input and output:
Input Output
20 your are not allowed
50 You are allowed
The field is empty
60 you are allowed
49 You are not allowed

```
# Get input from the user
age_input = input("Enter your age: ")

# Check if input is empty
if age_input == "":
    print("The field is empty")
else:
    # Convert input to integer
    age = int(age_input)
```

```
# Check if age is greater than or equal to 50
if age >= 50:
    print("You are allowed")
else:
    print("You are not allowed")
```

10. Write a Python program that will take two integer number from a user . if user put first number 4 and second number 9 then print the value 4 5 6 7 8 9. Note: first number is always smaller than second number .if user put first number large and second number small then it will alert the message (“Please give first number small and second number large”).

```
# Get input from the user
num1 = int(input("Enter the first number: "))
num2 = int(input("Enter the second number: "))

# Check if the first number is smaller than the second number
if num1 < num2:
    # Print the values between the numbers
    for i in range(num1, num2+1):
        print(i, end=" ")
else:
    # Print the error message
    print("Please give first number small and second number large")
```

11. Write a program using a while loop which prints the number like 49, 48, 47, 46.....21, 20, 1

```
# Set the initial value
num = 49

# Loop while num is greater than or equal to 1
while num >= 1:
    # Print the current number
    print(num, end=" ")

    # Decrement the number by 1
    num -= 1
```

12. There is an array ob the size of the array is 10, now put the value in the array (ob[0]=6, ob[1]=11, ob[2]=2, ob[3]=0, ob[4]=1, ob[5]=6, ob[6]=16, ob[7]=6, ob[8]=6, ob[9]=3).
Find out the average of the value which contains in the array. * Must use loop

```
# Define the array
ob = [6, 11, 2, 0, 1, 6, 16, 6, 6, 3]

# Initialize variables
total = 0
count = 0

# Loop through the array
for i in range(len(ob)):
    # Add the current value to the total
    total += ob[i]

    # Increment the count
    count += 1

# Calculate the average
if count > 0:
    average = total / count
else:
    average = 0

# Print the average
print("The average is:", average)
```