xp-1 Write a python code to generate Personalized Greeting using input/ output statements

```
# Ask the user for their name
name = input("What is your name? ")

# Ask the user for their favorite hobby
hobby = input("What's your favorite hobby? ")

# Ask the user for their favorite food
food = input("What's your favorite food? ")

# Generate a personalized greeting
print("\nHello, " + name + "!")
print("It's great that you enjoy " + hobby + ".")
print("I hope you get to eat some " + food + " today!")
print("Have an amazing day, " + name + "!")
```

Exp-2 Write a python program to calculate areas of any geometric figures like circle, rectangle and triangle using basic operators.

```
# Ask the user which shape they want to calculate the area for
print("Choose a geometric figure to calculate its area:")
print("1. Circle")
print("2. Rectangle")
print("3. Triangle")
choice = input("Enter 1, 2, or 3: ")

# Area calculation based on the user's choice
if choice == "1":
    # Circle area = π * r^2
    radius = float(input("Enter the radius of the circle: "))
    pi = 3.14159
    area = pi * radius * radius
    print("The area of the circle is:", area)

elif choice == "2":
    # Rectangle area = length * width
    length = float(input("Enter the length of the rectangle: "))
    width = float(input("Enter the width of the rectangle: "))
    area = length * width
    print("The area of the rectangle is:", area)

elif choice == "3":
    # Triangle area = 0.5 * base * height
    base = float(input("Enter the base of the triangle: "))
```

```
    height = float(input("Enter the height of the triangle: "))
    area = 0.5 * base * height
    print("The area of the triangle is:", area)

else:
    print("Invalid choice! Please enter 1, 2, or 3.")
```

Exp-3 Write a Python program to calculate the gross salary of an employee. The program should prompt the user for the basic salary (BS) and then compute the dearness allowance (DA) as 70% of BS, the travel allowance (TA) as 30% of BS, and the house rent allowance (HRA) as 10% of BS. Finally, it should calculate the gross salary as the sum of BS, DA, TA, and HRA and display the result. Use inbuilt mathematical functions.

```
# Import math module for mathematical operations (optional in this case)
import math

# Prompt the user to enter the Basic Salary
basic_salary = float(input("Enter the Basic Salary (BS): "))

# Calculate Dearness Allowance (DA) as 70% of BS
DA = 0.7 * basic_salary

# Calculate Travel Allowance (TA) as 30% of BS
TA = 0.3 * basic_salary

# Calculate House Rent Allowance (HRA) as 10% of BS
HRA = 0.1 * basic_salary

# Calculate Gross Salary
gross_salary = basic_salary + DA + TA + HRA

# Display the results
print("\nSalary Details:")
print("Basic Salary (BS):", basic_salary)
print("Dearness Allowance (DA):", DA)
print("Travel Allowance (TA):", TA)
print("House Rent Allowance (HRA):", HRA)
print("Gross Salary:", gross_salary)
```

Exp-4 Write a Python program to explore basic arithmetic operations. The program should prompt the user to enter two numbers and then perform addition, subtraction, multiplication, division, and modulus operations on those numbers. The results of each operation should be displayed to the user.

```
# Prompt the user to enter two numbers
```

```
num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))

# Perform arithmetic operations
addition = num1 + num2
subtraction = num1 - num2
multiplication = num1 * num2

# Handle division by zero
if num2 != 0:
    division = num1 / num2
    modulus = num1 % num2
else:
    division = "Undefined (cannot divide by zero)"
    modulus = "Undefined (cannot divide by zero)"

# Display the results
print("\nResults of Arithmetic Operations:")
print(f"{num1} + {num2} = {addition}")
print(f"{num1} - {num2} = {subtraction}")
print(f"{num1} * {num2} = {multiplication}")
print(f"{num1} / {num2} = {division}")
print(f"{num1} % {num2} = {modulus}")
```