1. Program to demonstrate data types and casting in python

# Integer

num\_int = 10

print("Integer:", num\_int)

# Float

num\_float = 3.14

print("Float:", num\_float)

# String

str\_var = "Hello, World!"

print("String:", str\_var)

# Boolean

bool\_var = True

print("Boolean:", bool\_var)

# Type Casting

# Converting integer to float

num\_int\_to\_float = float(num\_int)

print("Integer to Float:", num\_int\_to\_float)

# Converting float to integer

num\_float\_to\_int = int(num\_float)

print("Float to Integer:", num\_float\_to\_int)

# Converting integer to string

num\_int\_to\_str = str(num\_int)

print("Integer to String:", num\_int\_to\_str)

# Converting string to integer (if possible)

str\_to\_int = "25"

str\_to\_int\_casted = int(str\_to\_int)

print("String to Integer:", str\_to\_int\_casted)

# Converting boolean to integer (True becomes 1, False becomes 0)

bool\_to\_int = int(bool\_var)

print("Boolean to Integer:", bool\_to\_int)

1. Python program to demonstrate if, elif and else by checking larges of three numbers

# Function to find the largest among three numbers

def find\_largest(num1, num2, num3):

if num1 >= num2 and num1 >= num3:

return num1

elif num2 >= num1 and num2 >= num3:

return num2

else:

return num3

# Input three numbers

num1 = float(input("Enter first number: "))

num2 = float(input("Enter second number: "))

num3 = float(input("Enter third number: "))

# Find the largest number

largest\_num = find\_largest(num1, num2, num3)

# Display the result

print("The largest number among", num1, ",", num2, ", and", num3, "is", largest\_num)

1. Create a module to calculate area of square and rectangle. Import the module and perform the following:
2. Calculate area of rectangle and square
3. Calculate area of rectangle only
4. Calculate area of square only

# area\_calculator.py

# Function to calculate the area of a square

def area\_of\_square(side\_length):

return side\_length \* side\_length

# Function to calculate the area of a rectangle

def area\_of\_rectangle(length, width):

return length \* width

# main.py

# Import the module

import area\_calculator

# Calculate area of a square

side\_length = float(input("Enter the side length of the square: "))

square\_area = area\_calculator.area\_of\_square(side\_length)

print("Area of the square:", square\_area)

# Calculate area of a rectangle

length = float(input("Enter the length of the rectangle: "))

width = float(input("Enter the width of the rectangle: "))

rectangle\_area = area\_calculator.area\_of\_rectangle(length, width)

print("Area of the rectangle:", rectangle\_area)

# main.py

# Import the module

From area\_calculator import area\_of\_square

# Calculate area of a square

side\_length = float(input("Enter the side length of the square: "))

square\_area = area\_calculator.area\_of\_square(side\_length)

print("Area of the square:", square\_area)

# main.py

# Import the module

From area\_calculator import area\_of\_rectangle

# Calculate area of a rectangle

length = float(input("Enter the length of the rectangle: "))

width = float(input("Enter the width of the rectangle: "))

rectangle\_area = area\_calculator.area\_of\_rectangle(length, width)

print("Area of the rectangle:", rectangle\_area)

1. Python program to display 3 line message

message = """

This is line 1 of the message.

This is line 2 of the message.

This is line 3 of the message."""

print(message)

1. Program to take input from user for the following: Name, Branch and Age. Print the details

# Take input from the user

name = input("Enter your name: ")

branch = input("Enter your branch: ")

age = int(input("Enter your age: ")) # Convert input to integer

# Print the details

print("\nDetails:")

print("Name:", name)

print("Branch:", branch)

print("Age:", age)