Lab 3 date : 08/01/25

Q1. Python program to check leap year

#Python program to check leap year

#Taking input from the user

year = int(input("Enter year: "))

#Checking if the year is leap year or not and display the result

if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):

print(f"{year} is a leap year.")

else:

print(f"{year} is not a leap year.")

2. Python Program to Find the Largest Among Three Numbers

code:

# Program to find the largest among three numbers

# Take three numbers as input from the user

try:

number1 = float(input("Enter the first number: "))

number2 = float(input("Enter the second number: "))

number3 = float(input("Enter the third number: "))

# Find the largest number

if number1 >= number2 and number1 >= number3:

largest = number1

elif number2 >= number1 and number2 >= number3:

largest = number2

else:

largest = number3

print(f"The largest number is: {largest}")

except ValueError:

print("Invalid input! Please enter numeric values.")

Q3. Python Program to Check if a Number is Positive, Negative or 0

code:

# Program to check if a number is positive, negative, or zero

# Take input from the user

number = float(input("Enter a number: "))

# Check if the number is positive, negative, or zero

if number > 0:

print(f"The number {number} is positive.")

elif number < 0:

print(f"The number {number} is negative.")

else:

print(f"The number {number} is zero.")

Q4. Atoy vendor supplies three types of toys: Battery Based Toys, Key-based

Toys, and Electrical Charging Based Toys. The vendor gives a discount of

10% on orders for battery-based toys if the order is for more than Rs. 1000.

On orders of more than Rs. 100 for key-based toys, a discount of 5% is

given, and a discount of 10% is given on orders for electrical charging based

toys of value more than Rs. 500. Assume that the numeric codes 1,2 and 3

are used for battery based toys, key-based toys, and electrical charging based

toys respectively. Write a program that reads the product code and the order

amount and prints out the net amount that the customer is required to pay

after the discount.

code:

# Program to calculate net amount after discount

def calculate\_discount(product\_code, order\_amount):

if product\_code == 1: # Battery Based Toys

if order\_amount > 1000:

discount = 0.10 \* order\_amount

else:

discount = 0

elif product\_code == 2: # Key-based Toys

if order\_amount > 100:

discount = 0.05 \* order\_amount

else:

discount = 0

elif product\_code == 3: # Electrical Charging Based Toys

if order\_amount > 500:

discount = 0.10 \* order\_amount

else:

discount = 0

else:

discount = 0

print("Invalid product code.")

return order\_amount - discount

try:

# Input product code and order amount

product\_code = int(input("Enter the product code (1-Battery, 2-Key, 3-Electrical): "))

order\_amount = float(input("Enter the order amount (Rs.): "))

if order\_amount < 0:

print("Order amount cannot be negative.")

else:

# Calculate net amount

net\_amount = calculate\_discount(product\_code, order\_amount)

print(f"The net amount to be paid is: Rs. {net\_amount:.2f}")

except ValueError:

print("Invalid input! Please enter numeric values for product code and order amount.")

Q5. Atransport company charges the fare according to following table:

|Distance | Charges |

|--------------------------------------------|

|1-50 | 8 Rs/km |

|51-100 | 10 Rs/km |

|>100 | 12 Rs/km |

code:

# Program to calculate transport fare based on distance traveled

def calculate\_fare(distance):

if 1 <= distance <= 50:

fare = distance \* 8

elif 51 <= distance <= 100:

fare = distance \* 10

elif distance > 100:

fare = distance \* 12

else:

fare = 0 # Invalid distance

print("Distance must be greater than 0.")

return fare

try:

# Input the distance traveled

distance = float(input("Enter the distance traveled (in km): "))

if distance <= 0:

print("Distance must be greater than 0.")

else:

# Calculate fare

total\_fare = calculate\_fare(distance)

print(f"The total fare for {distance:.2f} km is: Rs. {total\_fare:.2f}")

except ValueError:

print("Invalid input! Please enter a numeric value for distance.")