Lab-4 Statements

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PYTHON PROGRAMMING

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1.Python program to check leap year .

**Code:**

def is\_leap\_year(year):

   # Function to check if a year is a leap year or not.

 # Args: - year (int): The year to be checked.

#Returns:- True if the year is a leap year, False otherwise.

#Leap year condition:- If a year is divisible by 4 and not divisible by 100, or if it is divisible by 400, then it is a leap year.

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

        return True

    else:

        return False

# Example usage:

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

if is\_leap\_year(year):

    print(year, "is a leap year.")

else:

    print(year, "is not a leap year.")

**Outputs:**

Enter a year: 2021 # Input to check the year is leap year or not

2021 is not a leap year. #Output as not a leap year.

Enter a year: 2024 # Input to check the year is leap year or not

2024 is a leap year. . #Output as a leap year.

2. Python Program to Find the Largest Among Three Numbers .

**Code:**

def find\_largest(A, B, C):

    if (A >= B) and (A >= C): # Check if A is greater than or equal to B and C

        largest = A

    elif (B>= A) and (B >= C):   # Check if B is greater than or equal to A and C

        largest = B

    else:

        largest = C # above two conditions are false then it will take default.

    return largest

# Input three numbers from the user

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

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

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

largest\_num = find\_largest(A, B, C) # Call the function to find the largest no.

print("The largest number is", largest\_num) # Print the result

Output:

Enter first number: 54 #input first number(A)=54

Enter second number: 32 #input second number(B)=32

Enter third number: 900 #input Third number(C)=900

The largest number is 900 #Output as 900 becouse compared to three number 900 is greater.

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

Code:

def check\_number(number):

    if number > 0: #number is greater than zero.and no Negative number.

        print("The number is positive.") #Print Positive Number.

    elif number < 0: #number is lessthan than zero.and no Positve number.

        print("The number is negative.") #Print Negative Number.

    else:

        print("The number is zero.") # the above two conditons are Fals then it execute else statement as zero.

Number = float(input("Enter a number: ")) # Taking input from the user.

check\_number(Number) # Calling the function to check the number.

Output:

Enter a number: 8

The number is positive.

Enter a number: 0

The number is zero.

Enter a number: -6

The number is negative.

4 A toy 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:**

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

    discount = 0

    if product\_code == 1 and order\_amount > 1000: # if condition.

        discount = 0.10

    elif product\_code == 2 and order\_amount > 100: # elif condition.

        discount = 0.05

    elif product\_code == 3 and order\_amount > 500: # elif condition.

        discount = 0.10

    return discount # it will returns the discount.

# formula to find net discount.

def calculate\_net\_amount(order\_amount, discount):

    net\_amount = order\_amount - (order\_amount \* discount)

    return net\_amount

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

order\_amount = float(input("Enter the order amount in Rs.: ")) # taking input from user.

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

net\_amount = calculate\_net\_amount(order\_amount, discount)

print("Net amount after discount: Rs.", net\_amount) # print Discount amount

**Output:**

**Enter the product code (1 for Battery Based Toys, 2 for Key-based Toys, 3 for Electrical Charging Based Toys): 3 # input as 3.**

**Enter the order amount in Rs.: 2000 # input order amount is 2000.**

**Net amount after discount: Rs. 1800. # output as net amount after discount 1800.**