[Year]

PYTHON PROGRAMMING

LAB-4 STATEMENTS

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Lab-4 Statements

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.
```