PYTHON LAB 4:

CONTROL STRUCTURES

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1. **Python program to check leap year.**

```
year = int(input("Enter the year:")) #Taking the year from user input
if year % 4 == 0 and (year % 100 != 0  or year % 400 == 0): # checking the condition to find the given year is leap year or not.
   print("The year ",year, "is Leap Year") # printing if a year is leap year
else:
 print("The year ",year, "is not a Leap Year") # printing if a year is not a leap year
```

Output

```
Enter the year:2003
The year  2003 is not a Leap Year

Enter the year:2060
The year  2060 is Leap Year
```

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

```
number1 = int(input("Enter the number:")) #taking input for number1
number2 = int(input("Enter the number:")) #taking input for number2
number3 = int(input("Enter the number:")) #taking input for number3
if number1>number2 and number1>number3: #checking the condition to display number1 as largest
 print(number1," Number1 is largest")
elif number2>number1 and number2>number3: #checking the condition to display number2 as largest
 print(number2," Number2 is largest")
else:
 print(number3, " Number3 is largest") #checking the condition to display number3 as largest
```

Output

```
Enter the number:23
Enter the number:33
Enter the number:17
33  Number2 is largest
```

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

```
number=int(input("Enter a number:")) # taking input number from user
if number > 0:  # checking the number greaterthan zero
  print("The given number is positive ") # dispalying positive
elif number < 0:  # checking the number lessthan zero
  print("The given number is negative ") # dispalying negative
else:
  print("The given number is 0 ") # dispalying zero
```

Output

```
Enter a number:0
The given number is 0

Enter a number:17
The given number is positive

Enter a number:-7
The given 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.**

```
product = int(input("Enter product Type :")) # Entering product type
o_amount = int(input("Enter amount in Rs :"))# Entering amount
net_amount = caldis(product, o_amount) # calculating net amount by calling function
print("Net amount after the discount is Rs.",net_amount) # displaying net amount

def caldis(product, o_amount): # defining a function
  discount = 0
  if product == 1 and o_amount >1000: # checking for battery toy and amount greater than 1000
    discount = 0.1 * o_amount #10 % discount
  elif product == 2 and o_amount >100: # checking for key based toy and amount greater than 100
    discount = 0.05 * o_amount # 5% discount
  elif product == 3 and o_amount >500: # checking for Electrical charge based toy and amount greater than 500
    discount = 0.1 * o_amount # 10% discount
  return o_amount - discount
```

Output

```
Enter product Type :2
Enter amount in Rs :700
Net amount after the discount is Rs. 665.0

Enter product Type :1
Enter amount in Rs :4000
Net amount after the discount is Rs. 3600.0

Enter product Type :3
```