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

```
def is_leap_year(year):
    # Leap year if divisible by 4, but not divisible by 100, except if divisible by 400
    if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
        return True
    else:
        return False
year = int(input("Enter a year: "))
if is_leap_year(year):
    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.**

```
def find_largest(a, b, c):
    return max(a, b, c)
num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))
num3 = float(input("Enter the third number: "))
largest = find_largest(num1, num2, num3)
print("The largest number is:", largest)
```

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

```
def check_number(number):
    if number > 0:
        return "Positive"
    elif number < 0:
        return "Negative"
    else:
        return "Zero"
num = float(input("Enter a number: "))
result = check_number(num)
print("The number is:", result)
```

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.**

```
def calculate_net_amount(product_code, order_amount):
    if product_code == 1:  # Battery Based Toys
        if order_amount > 1000:
            discount = 0.10
        else:
            discount = 0
    elif product_code == 2:  # Key-based Toys
        if order_amount > 100:
            discount = 0.05
        else:
            discount = 0
    elif product_code == 3:  # Electrical Charging Based Toys
        if order_amount > 500:
            discount = 0.10
        else:
            discount = 0
    else:
        return "Invalid product code"
    net_amount = order_amount - (order_amount * discount)
    return net_amount
product_code = int(input("Enter the product code (1 for Battery Based, 2 for Key-based, 3 for
Electrical Charging): "))
order_amount = float(input("Enter the order amount: "))
net_amount = calculate_net_amount(product_code, order_amount)
if isinstance(net_amount, str):
    print(net_amount)
else:
    print(f"The net amount to be paid after discount is: Rs. {net_amount:.2f}")
```

5. A transport company charges the fare according to following table:

Distance	**Charges**
1-50	8 Rs./Km
51-100	10 Rs./Km
> 100	12 Rs/Km

```
def calculate_fare(distance):
    if 1 <= distance <= 50:
        fare = 8 * distance
    elif 51 <= distance <= 100:
        fare = 10 * distance
    elif distance > 100:
        fare = 12 * distance
    else:
        return "Invalid distance"
    return fare
distance = float(input("Enter the distance traveled (in km): "))
fare = calculate_fare(distance)
if isinstance(fare, str):
    print(fare)
else:
    print(f"The fare for {distance} km is: Rs. {fare:.2f}")
```