

1. Write a Python Program to Check if a Number is Positive, Negative or Zero?

Ans:

```
def num_check(num):
    if num > 0:
        print("Positive number")
    elif num == 0:
        print("Zero")
    else:
        print("Negative number")
number = float(input("Enter a number: "))
num_check(number)
```

Enter a number: 5
Positive number

2. Write a Python Program to Check if a Number is Odd or Even?

Ans:

```
def even_odd(num):
    if (num % 2) == 0:
        print("{0} is Even".format(num))
    else:
        print("{0} is Odd".format(num))
number = int(input("Enter a number: "))
even_odd(number)
```

Enter a number: 5
5 is Odd

```
def even_odd(num):
    if (num % 2) == 0:
        print("{0} is Even".format(num))
    else:
        print("{0} is Odd".format(num))
number = int(input("Enter a number: "))
even_odd(number)
```

Enter a number: 2
2 is Even

3. Write a Python Program to Check Leap Year?

Ans :

```
def leap_year(year):
    if (year % 4) == 0:
        if (year % 100) == 0:
            if (year % 400) == 0:
                print("{0} is a leap year".format(year))
            else:
                print("{0} is not a leap year".format(year))
        else:
            print("{0} is a leap year".format(year))
    else:
        print("{0} is not a leap year".format(year))
year = int(input("Enter a year: "))
leap_year(year)
```

Enter a year: 1265
1265 is not a leap year

```
def leap_year(year):
    if (year % 4) == 0:
        if (year % 100) == 0:
            if (year % 400) == 0:
                print("{0} is a leap year".format(year))
            else:
                print("{0} is not a leap year".format(year))
        else:
            print("{0} is a leap year".format(year))
    else:
        print("{0} is not a leap year".format(year))
year = int(input("Enter a year: "))
leap_year(year)
```

Enter a year: 2000
2000 is a leap year

4. Write a Python Program to Check Prime Number?

Ans:

```
21]: def prime_check(num):  
    if num > 1:  
        for i in range(2,num):  
            if (num % i) == 0:  
                print(num,"is not a prime number")  
                print(i,"times",num//i,"is",num)  
                break  
            else:  
                print(num,"is a prime number")  
        else:  
            print(num,"is not a prime number")  
    number = int(input("Enter a number: "))  
    prime_check(number)
```

```
Enter a number: 21  
21 is not a prime number  
3 times 7 is 21
```

5. Write a Python Program to Print all Prime Numbers in an Interval of 1-10000?

Ans:

```
]: def prime_check_interval(lower,upper):  
    print("Prime numbers between", lower, "and", upper, "are:")  
    for num in range(lower, upper + 1):  
        if num > 1:  
            for i in range(2, num):  
                if (num % i) == 0:  
                    break  
            else:  
                print(num)  
    lower_number = int(input("Enter a lower range number: "))  
    upper_number = int(input("Enter an upper range number: "))  
    prime_check_interval(lower_number, upper_number)
```

```
Enter a lower range number: 1  
Enter an upper range number: 10000  
Prime numbers between 1 and 10000 are:  
2  
3  
5  
7  
11  
13  
17  
19  
23  
29  
31  
37  
41  
43  
47  
53  
59  
61  
67
```