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

```python
In [1]: def check(val):
            if val>0:
                print("{} is positive number".format(val))
            elif val ==0:
                print("{} Zero".format(val))
            else:
                print("{} is negative number".format(val))
```

```python
In [2]: check(5)
```

```
5 is positive number
```

```python
In [3]: check(0)
```

```
0 Zero
```

```python
In [4]: check(-5)
```

```
-5 is negative number
```

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

```python
In [5]: def odd_even(num):
            if num%2==0:
                print("{} is even number".format(num))
            else:
                print("{} is odd number".format(num))
```

```python
In [6]: odd_even(56)
```

```
56 is even number
```

In [7]: `odd_even(57)`

```
57 is odd number
```

3. Write a Python Program to Check Leap Year?

In [8]:
```python
def leap(year):

    if (year % 400 == 0) and (year % 100 == 0):
        print("{0} is a leap year".format(year))
    elif (year % 4 ==0) and (year % 100 != 0):
        print("{0} is a leap year".format(year))
    else:
        print("{0} is not a leap year".format(year))
```

In [9]: `leap(2000)`

```
2000 is a leap year
```

In [10]: `leap(2012)`

```
2012 is a leap year
```

In [11]: `leap(2010)`

```
2010 is not a leap year
```

4. Write a Python Program to Check Prime Number?

```
In [14]: def prime(num):
             if num>1:
                 for i in range(2,num):
                     if num%i==0:
                         print("{} is not prime".format(num))
                         break
                 else:
                     print("{} is prime".format(num))
             else:
                 print("{} is not prime".format(num))
```

```
In [16]: prime(71)
```

```
71 is prime
```

```
In [17]: prime(56)
```

```
56 is not prime
```

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

In [23]:
```python
for i in range(2,10000):
    for j in range(2,i):
        if i%j==0:
            break
    else:
        print(i)
```

```
2
3
5
7
11
13
17
19
23
29
31
37
41
43
47
53
59
61
67
71
```

In [ ]: