

Python_basic_programming_3

1. Write a Python program to check if a Number is Positive, Negative or Zero ?

```
In [1]: def checkNumber(num):  
        if num > 0:  
            print('{} is a Postive number'.format(num))  
        elif num < 0:  
            print('{} is a Negative number'.format(num))  
        else:  
            print("Number is Zero")  
  
        num = int(input("Enter a number: "))  
        checkNumber(num)
```

```
Enter a number: -4  
-4 is a Negative number
```

2. Write a Python program to check if a Number is Odd or Even ?

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

```
Enter a number: 25  
25 is a Odd number
```

3. Write a Python program to check Leap Year ?

```
In [3]: def checkYear(year):  
        if (year%4 == 0 and year%100 != 0 or year%400 == 0):  
            print(f'{year} is a Leap year')  
        else:  
            print(f'{year} is not a Leap year')  
  
        year = int(input("Enter year: "))  
        checkYear(year)
```

```
Enter year: 2023  
2023 is not a Leap year
```

4. Write a Python program to check Prime Number ?

```
In [4]: def isPrime(num):  
        flag = False  
        for i in range(2, num):  
            if num%i == 0:  
                flag = True  
                break  
        if(not flag):  
            print(f'{num} is a prime number')  
        else:  
            print(f'{num} is not a prime number')  
  
        number = int(input("Enter a number: "))  
        isPrime(number)
```

Enter a number: 7
7 is a prime number

5. Write a Python program to print all Prime Numbers in an interval of 1-10000 ?

In [5]: PrimeNumbersList = []

```
def generatePrimeNumbers():  
    for x in range(1,10000):  
        flag=False  
        for y in range(2,x):  
            if (x%y ==0):  
                flag = True  
                break  
        if (not flag):  
            PrimeNumbersList.append(x)
```

```
generatePrimeNumbers()  
print(PrimeNumbersList)
```

```
[1, 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79,  
83, 89, 97, 101, 103, 107, 109, 113, 127, 131, 137, 139, 149, 151, 157, 163, 167, 173, 1  
79, 181, 191, 193, 197, 199, 211, 223, 227, 229, 233, 239, 241, 251, 257, 263, 269, 271,  
277, 281, 283, 293, 307, 311, 313, 317, 331, 337, 347, 349, 353, 359, 367, 373, 379, 38  
3, 389, 397, 401, 409, 419, 421, 431, 433, 439, 443, 449, 457, 461, 463, 467, 479, 487,  
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1951, 1973, 1979, 1987, 1993, 1997, 1999, 2003, 2011, 2017, 2027, 2029, 2039, 2053, 206  
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