

Programming Assignment_3

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

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

Output:

Enter a number: -45

Negative number

>

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

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

Output:

Enter a number: 44

44 is Even

>

3. Write a Python Program to Check Leap Year?

Output:

Python 3.9.7 (tags/v3.9.7:1016ef3, Aug 30 2021, 20:19:38) [MSC v.1929 64 bit (AMD64)] on win32

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```
>>> year = int(input('Enter year : '))
```

Enter year : 2000

```
>>> if (year%4 == 0 and year%100 != 0) or (year%400 == 0) :
```

```
    print(year, "is a leap year.")
```

else :

```
    print(year, "is not a leap year.")
```

2000 is a leap year.

```
>>>
```

4. Write a Python Program to Check Prime Number?

Sol:

```
if num > 1:
```

```
    # Iterate from 2 to n / 2
```

```
    for i in range(2, int(num/2)+1):
```

```
        # If num is divisible by any number between
```

```
        # 2 and n / 2, it is not prime
```

```
        if (num % i) == 0:
```

```
            print(num, "is not a prime number")
```

```
            break
```

```
    else:
```

```
        print(num, "is a prime number")
```

```
else:
```

```
    print(num, "is not a prime number")
```

Output: 11

11 is a prime number

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

```
lower = 900
```

```
upper = 1000
```

```
print("Prime numbers between", lower, "and", upper, "are:")
```

```
for num in range(lower, upper + 1):
```

```
    # all prime numbers are greater than 1
```

```
    if num > 1:
```

```
        for i in range(2, num):
```

```
            if (num % i) == 0:
```

```
                break
```

```
        else:
```

```
            print(num)
```

Output:

Prime numbers between 900 and 1000 are:

907

911

919

929

937

941

947

953

967

971

977

983

991

997

>