# Python Control Structures - Coding Challenges

## Even or Odd

Write a program to check if a number is even or odd.

Solution:

num = int(input("Enter a number: "))  
if num % 2 == 0:  
 print("Even")  
else:  
 print("Odd")

## Largest of Three Numbers

Find the largest of three numbers.

Solution:

a, b, c = map(int, input("Enter three numbers: ").split())  
  
if a >= b and a >= c:  
 print(f"Largest: {a}")  
elif b >= a and b >= c:  
 print(f"Largest: {b}")  
else:  
 print(f"Largest: {c}")

## Positive, Negative or Zero

Determine if a number is positive, negative, or zero.

Solution:

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

## Leap Year Checker

Write a program to check if a year is a leap year.

Solution:

year = int(input("Enter a year: "))  
  
if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):  
 print("Leap Year")  
else:  
 print("Not a Leap Year")

## Sum of First N Natural Numbers

Calculate the sum of the first N natural numbers.

Solution:

n = int(input("Enter N: "))  
sum\_n = sum(range(1, n+1))  
print(f"Sum: {sum\_n}")

## Factorial of a Number

Compute the factorial of a number.

Solution:

n = int(input("Enter a number: "))  
fact = 1  
  
for i in range(1, n+1):  
 fact \*= i  
  
print(f"Factorial: {fact}")

## Fibonacci Series

Print the first N Fibonacci numbers.

Solution:

n = int(input("Enter N: "))  
a, b = 0, 1  
  
for \_ in range(n):  
 print(a, end=" ")  
 a, b = b, a + b

## Check for Prime Number

Determine if a number is prime.

Solution:

n = int(input("Enter a number: "))  
  
if n < 2:  
 print("Not Prime")  
else:  
 for i in range(2, int(n \*\* 0.5) + 1):  
 if n % i == 0:  
 print("Not Prime")  
 break  
 else:  
 print("Prime")