

# Simplified Python Programs for Freshers

## - Swap two numbers without a third variable

```
a = 5

b = 10

a, b = b, a

print(a, b)
```

## - Check if number is even or odd

```
num = int(input("Enter number: "))

if num % 2 == 0:

    print("Even")

else:

    print("Odd")
```

## - Check if number is prime

```
num = int(input("Enter number: "))

if num < 2:

    print("Not Prime")

else:

    for i in range(2, num):

        if num % i == 0:

            print("Not Prime")

            break

    else:

        print("Prime")
```

## - Fibonacci series up to n terms

```
n = int(input("Enter terms: "))
```

```
a, b = 0, 1

for _ in range(n):

    print(a)

    a, b = b, a + b
```

### **- Factorial using loop**

```
num = int(input("Enter number: "))

fact = 1

for i in range(1, num + 1):

    fact *= i

print("Factorial:", fact)
```

### **- Check palindrome string**

```
s = input("Enter text: ")

if s == s[::-1]:

    print("Palindrome")

else:

    print("Not Palindrome")
```

### **- Count vowels in string**

```
text = input("Enter text: ")

vowels = 0

for ch in text:

    if ch.lower() in 'aeiou':

        vowels += 1

print("Vowel count:", vowels)
```

### **- Reverse a string**

```
text = input("Enter text: ")

print(text[::-1])
```

### - Remove duplicate characters

```
text = input("Enter text: ")

result = ""

for ch in text:

    if ch not in result:

        result += ch

print(result)
```

### - Character frequency in string

```
text = input("Enter text: ")

for ch in set(text):

    print(ch, text.count(ch))
```

### - Star pattern (pyramid)

```
n = 5

for i in range(1, n + 1):

    print(" " * (n - i) + "*" * (2 * i - 1))
```

### - Check Armstrong number

```
num = int(input("Enter number: "))

order = len(str(num))

sum = 0

for digit in str(num):

    sum += int(digit) ** order

if sum == num:

    print("Armstrong")

else:

    print("Not Armstrong")
```

### - Sum of digits

```
num = int(input("Enter number: "))

sum = 0

while num:

    sum += num % 10

    num //= 10

print("Sum:", sum)
```

### **- Find max and min in list**

```
nums = [4, 7, 1, 3]

print("Max:", max(nums))

print("Min:", min(nums))
```

### **- Sort list without sort()**

```
nums = [4, 2, 5, 1]

for i in range(len(nums)):

    for j in range(i + 1, len(nums)):

        if nums[i] > nums[j]:

            nums[i], nums[j] = nums[j], nums[i]

print(nums)
```

### **- Find second largest**

```
nums = [4, 2, 7, 7, 5]

nums = list(set(nums))

nums.sort()

print("Second largest:", nums[-2])
```

### **- Remove duplicates from list**

```
nums = [1, 2, 2, 3]

print(list(set(nums)))
```

### **- Find GCD**

```
a = 12

b = 18

while b:

    a, b = b, a % b

print("GCD:", a)
```

### **- Check leap year**

```
year = int(input("Enter year: "))

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

    print("Leap Year")

else:

    print("Not Leap Year")
```

### **- Generate random number**

```
import random

print(random.randint(1, 100))
```