Python Programming

Day-2

1) Right Triangle Pattern-

```
n = 5
for i in range(1, n + 1):
    print('*' * i)
```

2) Left Triangle Pattern-

```
n = 5
for i in range(n, 0, -1):
    print('*' * i)
```

3) Pascal Triangle-

```
def print_pascals_triangle(n):
    triangle = [[1]]

     for i in range(1, n):
       row = [1]
       for j in range(1, i):
          row.append(triangle[i-1][j-1] + triangle[i-1][j])
       row.append(1)
       triangle.append(row)
```

```
    for row in triangle:
        print(' '.join(map(str, row)))
print_pascals_triangle(5)
```

4) *Remove Duplicate-*

```
def remove_duplicates(lst):
    return list(dict.fromkeys(lst))
lst = [1, 2, 2, 3, 4, 4, 5]
print(remove_duplicates(lst))
```

5) *Print Duplicate-*

```
From collections import counter
a=[1,2,2,3,4,5,6]
frequency=counter(a)
print(frequency)
```

6) *Frequency Of Characters-*

```
String=”saveetha”
Frequency=counter(string)
Print(frequency)
```

7) *REVERSE(SLICING)*

```
original_string = "Hello, world!"
reversed_string = original_string[::-1]
print(reversed_string)
```

8) EMAIL IS VALID OR NOT

```
from email_validator import validate_email, EmailNotValidError


def is_valid_email(email):
    try:
        # Validate the email
        v = validate_email(email)
        # Update with the normalized form
        email = v["email"]
        return True
    except EmailNotValidError as e:
        # Email is not valid, exception message is human-readable
        print(str(e))
        return False


# Example usage
email = "example@example.com"
if is_valid_email(email):
    print(f"'{email}' is a valid email address.")
else:
    print(f"'{email}' is not a valid email address.")
```

9) CONCATE WITHOUT + OPERATOR

```
def concatenate_strings(s1, s2):
    return ''.join([s1, s2])
str1 = "Hello"
str2 = "World"
result = concatenate_strings(str1, str2)
print(result)
```

10) *VOWELS AND CONSONANTS*

```
def count_vowels_and_consonants(s):
    vowels = "aeiouAEIOU"
    count_v = sum(1 for char in s if char in vowels)
    count_c = sum(1 for char in s if char.isalpha() and char not in vowels)
    print(f"Vowels: {count_v}")
    print(f"Consonants: {count_c}")
s = "Hello World"
count_vowels_and_consonants(s)
```