PYTHON & PORTS

What is our GOAL for this CLASS?

In this class, we have learned about ports and we revised all previous concepts of python. We learned how the network selects the ports based on different different applications.

What did we ACHIEVE in the class TODAY?

- We learnt about TCP/IP Ports
- We checked how we can find ports number of running applications
- We revised all about python basics
- We discussed Variables, List, Dictionaries while loop .
- We created python programs while revisiting all python concepts like if else, nested loops, operators.

Which CONCEPTS/ CODING BLOCKS did we cover today?

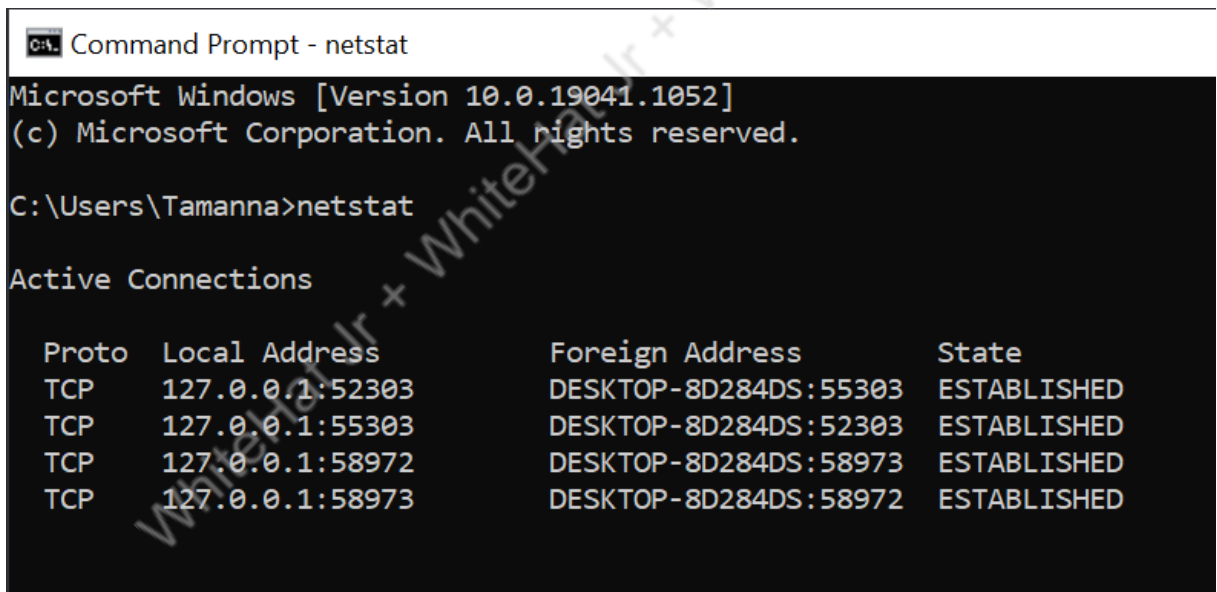- Netstat for Port Number
- Operators
- If-Else
- While Loop
- List

How did we DO the activities?

1.We checked about all the ports available in the world.

https://en.wikipedia.org/wiki/List_of_TCP_and_UDP_port_numbers

2. How to check ports numbers for running applications ?
   ● Open the Command Prompt
   ● Use netstat
   ● Your output will look like this:

3. We have written a python program where we need to print the first 10 odd numbers using a while loop in Python.

   ● Create a Variable for count
   ● Create a variable for number
   ● Create a while loop where we place the condition of *count < 10*. This means that this while loop will keep executing until our count is less than 10.
   ● Use the if condition to check whether the number would be divisible by 2 or not with the % operator.

- Print the number and increase the count by 1 to proceed further.
- Repeat the loop till we reach number till 10

```
[1]  count = 0
     number = 0
     while count < 10:
         if number%2 == 1:
             print(number)
             count += 1
         number += 1
```

- Your Output look like this:

```
1
3
5
7
9
11
13
15
17
19
```

4. Write a python program using functions & dictionaries concept to display list.

- Create a function print_dict() that takes an argument dictionary.
- Create 2 variables - keys and values. Both of these are empty lists to store all the keys and values of the dictionary will use by arguments
- Create a for loop, Use items() method of a dictionary, to get both key & value in the variables.
- Use append() method to add key and value to their corresponding lists
- Print the result

```
[2]  def print_dict(dictionary):
        keys = []
        values = []
        for key, value in dictionary.items():
          keys.append(key)
          values.append(value)
        print(keys)
        print(values)
```

- Your output will look like this:

```
[4]  dict_1 = {
          "apples": 1,
          "bananas": 5,
          "oranges": 10
     }

     print_dict(dict_1)

     ['apples', 'bananas', 'oranges']
     [1, 5, 10]
```

5. Write a python program to find average and percentage of marks obtained in 5 subjects.

- Create a list, to enter marks obtained in 5 subjects
- Create one variable to store total i
- Use for loop to get input from the user for all 5 subjects.
- Use the Insert method to save all marks in the list.
- Create one more loop to calculate the sum of all subject's marks.
- Create one variable for average and write the logic for average i.e Sum of observations/Total no of observations.
- Create one variable for percentage and write the logic for percentage.

```
mark = []
total = 0
print("Enter Marks Obtained in all 5 Subjects: ")
for i in range (5):
    mark.insert(i, int(input()))
for i in range(5):
    total = total + mark[i]

average = total/5
percentage = (total/500)*100
print("Average Mark = " , average)
print("Percentage Mark = ", percentage)
```

- Your output will look like this:

```
Enter Marks Obtained in all 5 Subjects:
5
45
34
45
55
Average Mark =   36.8
Percentage Mark =   36.8
```

6. Write a python program to make a simple calculator.

- Create two variables to store number_1 another to store number_2
- Create a third variable to store the result.
- Use operators for respective operations like + for adding two numbers, - for subtraction of two numbers, * for multiplying two numbers, / for division of two numbers.

```
choice = int(input("Enter your choice: (1,2,3,4" ))
if (choice>=1 and choice<=4):
  print("Enter two numbers: ")
  number_1 = int(input())
  number_2 = int(input())

  if choice == 1:
    res = number_1 + number_2
    print("Result = ", res)

  elif choice == 2:
    res = number_1 - number_2
    print("Result = ", res)

  elif choice == 3:
    res = number_1 * number_2
    print("Result = ", res)

  elif choice == 4:
    res = number_1 / number_2
    print("Result = ", res)

  elif choice == 5:
    exit()
else:
  print("Wrong input..!!")
```

- Your output will look this:

```
Enter your choice: (1,2,3,41
Enter two numbers:
25
25
Result =  50
```

What's NEXT?

In the next class, we will learn about sockets and will create a chat application based on sockets. Will learn how to create a client and server on python.