

## ICP 3

- 1. Create a class Employee and then do the following.**
  - a. Create a data member to count the number of Employees**
  - b. Create a constructor to initialize name, family, salary, department**
  - c. Create a function to average salary**
  - d. Create a Fulltime Employee class and it should inherit the properties of Employee class**
  - e. Create the instances of Fulltime Employee class and Employee class and call their member functions.**

The screenshot displays the PyCharm IDE interface. The main editor window shows a Python script named `part-1.ipynb` with the following code:

```

1: self.family = family
2: Employee.salary += int(s)
3: self.department = d
4: Employee.employee_count += 1
5:
6: def Average_Salary(self):
7:     self.avgsalary = Employee.salary / Employee.employee_count
8:     #averaging the employee salary
9:
10: class FullTimeEmployee(Employee):
11:     #defining parent class
12:
13:     def __init__(self):
14:         Employee.Average_Salary(self)
15:         #calling the parent class method
16:         print("Average Salary Of total employees =", self.avgsalary)
17:
18: c = Employee('Nsd', 'safj', 1000, 'cse')
19: #initiating an object for Employee class
20: c = Employee('Ns', 'saj', 2000, 'cse')
21: k = FullTimeEmployee()
22: #initiating an object for FullTimeEmployee
23:
24:
25:
26:
27:
28:
29:
30:

```

The terminal window at the bottom shows the execution output:

```

C:\Users\nithin\PycharmProjects\Py1st\venv\Scripts\python.exe "C:\Users\nithin\Downloads\part-1\icp 3 1st.py"
Average Salary Of total employees = 1500.0
Process finished with exit code 0

```

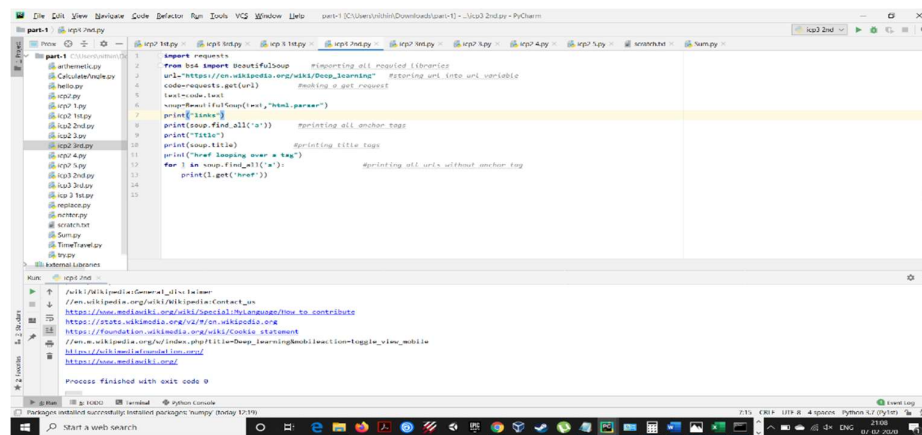
2. Web scraping Write a simple program that parse a Wiki page mentioned below and follow the instructions:

[https://en.wikipedia.org/wiki/Deep\\_learning](https://en.wikipedia.org/wiki/Deep_learning)

a. Print out the title of the page

b. Find all the links in the page ('a' tag)

c. Iterate over each tag(above) then return the link using attribute "href" using get



```
1 import requests
2 from bs4 import BeautifulSoup
3 url = "https://en.wikipedia.org/wiki/Deep_learning"
4 code = requests.get(url)
5 text = code.text
6 soup = BeautifulSoup(text, "html.parser")
7 print(soup.title)
8 print(soup.find_all('a'))
9 print("Title")
10 print(soup.title)
11 print("href")
12 for i in soup.find_all('a'):
13     print(i.get("href"))
```

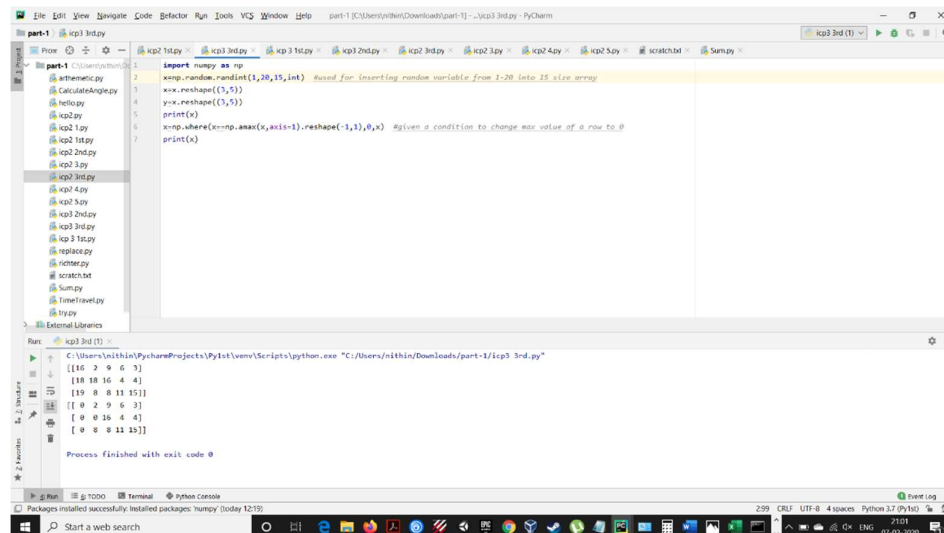
### 3. Numpy

Using NumPy create random vector of size 15 having only Integers in the range 1-20.

Then reshape the array to 3 by 5

Then replace the max in each row by 0

(you can NOT implement it via for loop. You need to use np. where, reshape)



```
1 import numpy as np
2 x = np.random.randint(1, 20, 15)
3 x = x.reshape(3, 5)
4 print(x)
5 x[np.where(x==x.max(axis=1)).reshape(-1,1)] = 0
6 print(x)
```

By

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Class Id: 4