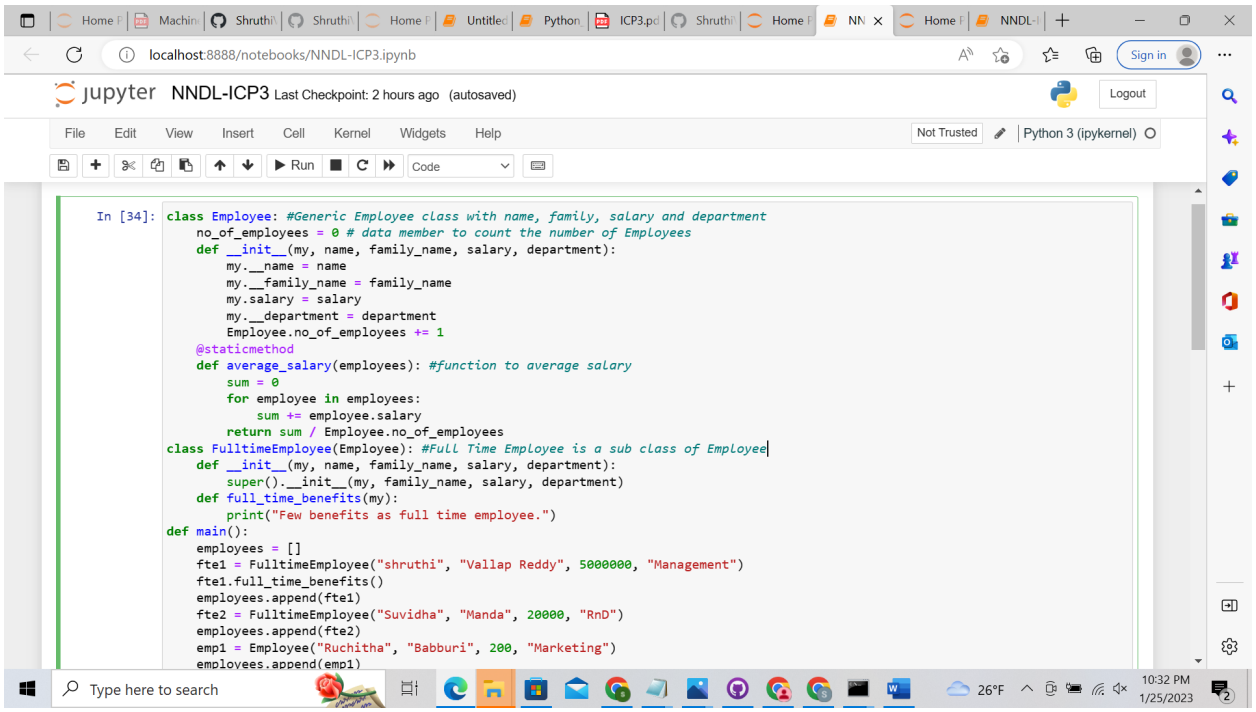
Lesson3: ICP3 In class programming:

1) Create a class Employee and then do the following

- Create a data member to count the number of Employees
- Create a constructor to initialize name, family, salary, department
- Create a function to average salary
- Create a Fulltime Employee class and it should inherit the properties of Employee class
- Create the instances of Fulltime Employee class and Employee class and call their member functions

Ans



1) Created Employee class
2) Created the data member to count the number of employees
3) Created the constructor for employee using _init_ method.
4) Created the function average_salary() to calculate the average salary of all employees
5) Created the full time employee class which inherited the employee class
6) Created the instances with some data in main() and calculated the average salary.

localhost:8888/notebooks/NNDL-ICP3.ipynb

jupyter NNDL-ICP3 Last Checkpoint: 2 hours ago (autosaved)

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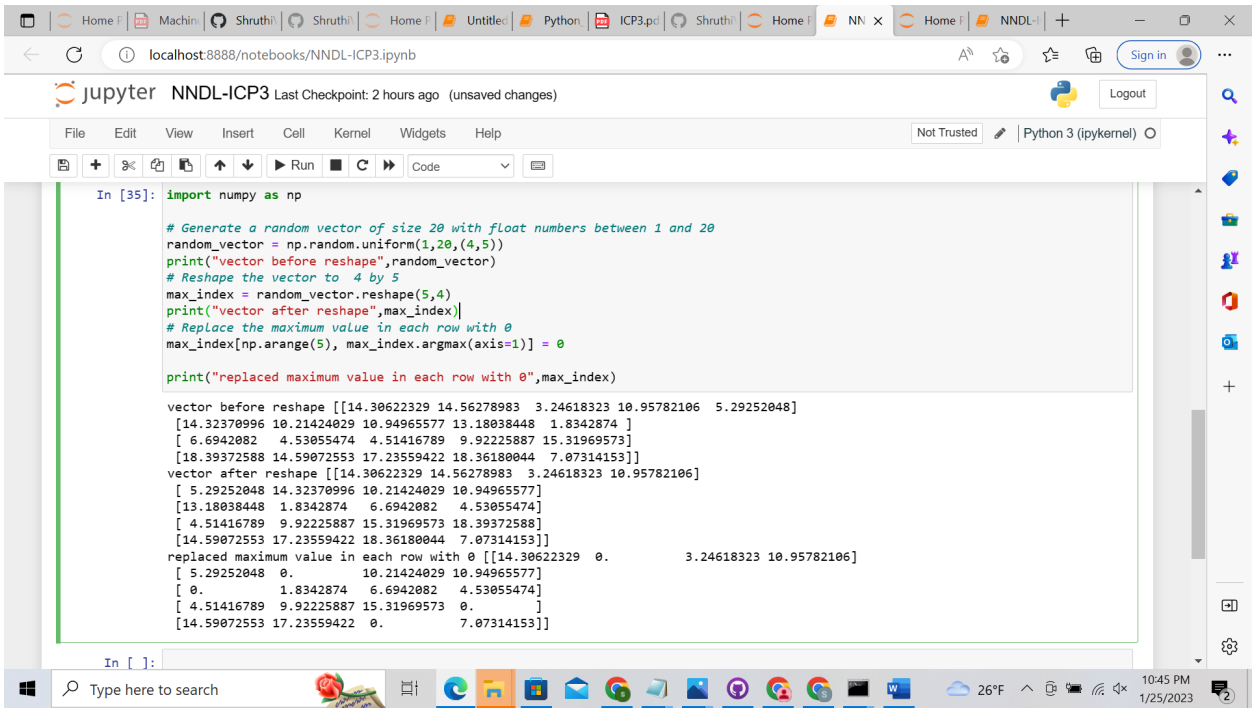
```python
    def average_salary(employees): #function to average salary
        sum = 0
        for employee in employees:
            sum += employee.salary
        return sum / Employee.no_of_employees
class FulltimeEmployee(Employee): #Full Time Employee is a sub class of Employee
    def __init__(my, name, family_name, salary, department):
        super().__init__(my, family_name, salary, department)
    def full_time_benefits(my):
        print("Few benefits as full time employee.")
def main():
    employees = []
    fte1 = FulltimeEmployee("shruthi", "Vallap Reddy", 5000000, "Management")
    fte1.full_time_benefits()
    employees.append(fte1)
    fte2 = FulltimeEmployee("Suvidha", "Manda", 20000, "RnD")
    employees.append(fte2)
    emp1 = Employee("Ruchitha", "Babburi", 200, "Marketing")
    employees.append(emp1)
    emp2 = Employee("Sindhu", "Maryadha", 10000, "HR")
    employees.append(emp2)
    print("Average salary of all employees :", FulltimeEmployee.average_salary(employees))
    print("No of Employees",Employee.no_of_employees)
if __name__ == "__main__":
    main()
```

```
Few benefits as full time employee.
Average salary of all employees : 1257550.0
No of Employees 4
```

2. Numpy

- Using NumPy creates a random vector of size 20 having only float in the range 1-20.
- Then reshape the array to 4 by 5 Then replace the max in each row by 0 (axis=1) (you can NOT implement it via for loop

Ans



1) Using numpy created the random vector to get the float numbers between 1 to 20 numbers as 4 by 5 matrix and printed the output
2) Reshaped the matrix using reshape() method
3) Replaced the maximum value with using code max_index[np.arange(5), max_index.argmax(axis=1)] = 0

Git Repo link = https://github.com/ShruthiVallapReddy/NNDL---ICP3.git