

Neural Networks & Deep Learning Assignment-3

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Repository Link :

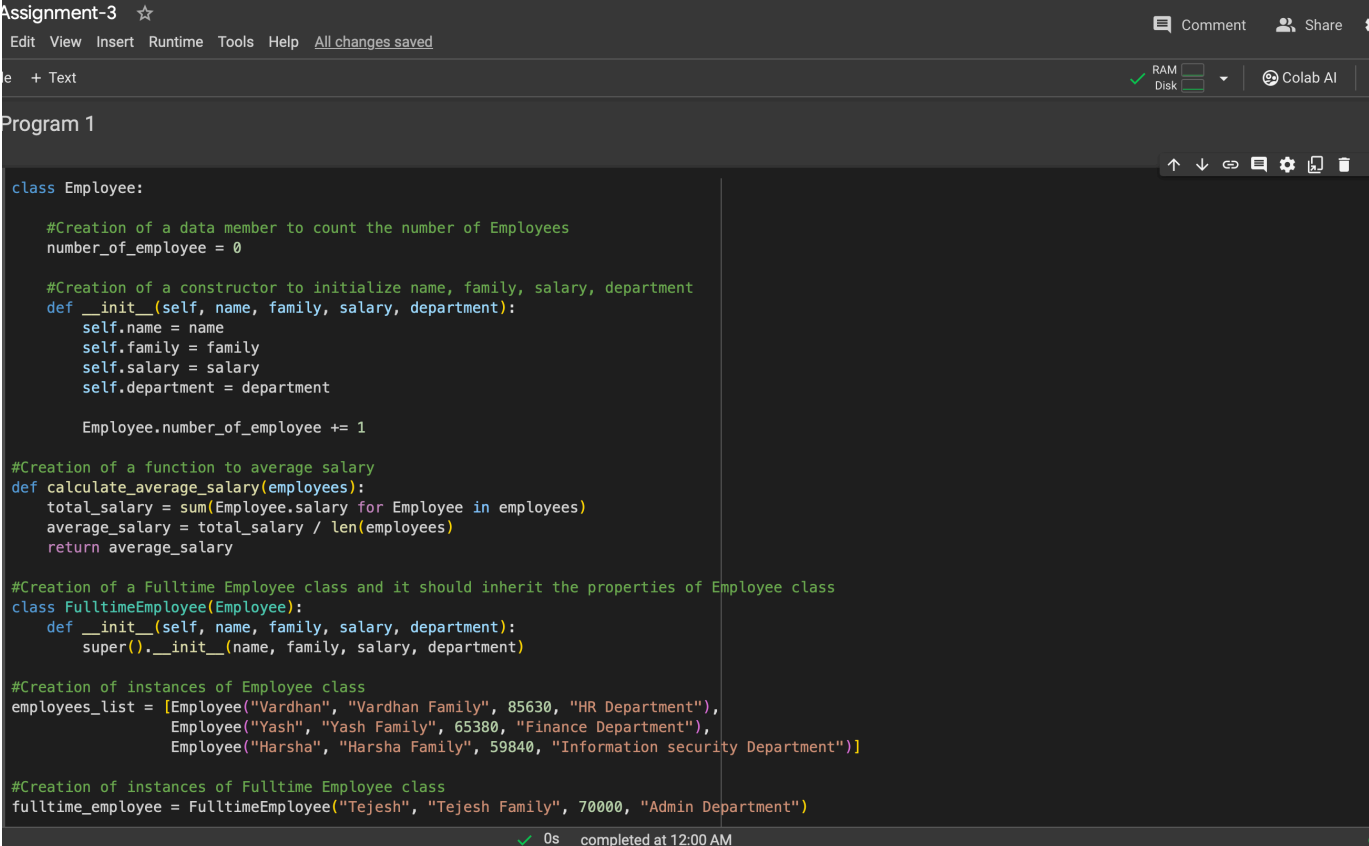
<https://github.com/harshavardhanreddy27/Neual-Network-Assignment---3>

Video Link:

https://drive.google.com/file/d/1k_NUDaSO383KIUhP1F8jTnvPgyprx3gM/view?usp=share_link

Code Screenshots:

Question:1



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Assignment-3 ☆
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Program 1

class Employee:

    #Creation of a data member to count the number of Employees
    number_of_employee = 0

    #Creation of a constructor to initialize name, family, salary, department
    def __init__(self, name, family, salary, department):
        self.name = name
        self.family = family
        self.salary = salary
        self.department = department

        Employee.number_of_employee += 1

#Creation of a function to average salary
def calculate_average_salary(employees):
    total_salary = sum(Employee.salary for Employee in employees)
    average_salary = total_salary / len(employees)
    return average_salary

#Creation of a Fulltime Employee class and it should inherit the properties of Employee class
class FulltimeEmployee(Employee):
    def __init__(self, name, family, salary, department):
        super().__init__(name, family, salary, department)

#Creation of instances of Employee class
employees_list = [Employee("Vardhan", "Vardhan Family", 85630, "HR Department"),
                  Employee("Yash", "Yash Family", 65380, "Finance Department"),
                  Employee("Harsha", "Harsha Family", 59840, "Information security Department")]

#Creation of instances of Fulltime Employee class
fulltime_employee = FulltimeEmployee("Tejesh", "Tejesh Family", 70000, "Admin Department")

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#Creation of instances of Employee class
employees_list = [Employee("Vardhan", "Vardhan Family", 85630, "HR Department"),
                  Employee("Yash", "Yash Family", 65380, "Finance Department"),
                  Employee("Harsha", "Harsha Family", 59840, "Information security Department")]

#Creation of instances of Fulltime Employee class
fulltime_employee = FulltimeEmployee("Tejesh", "Tejesh Family", 70000, "Admin Department")

#Calling their member functions.
average_salary_result = calculate_average_salary(employees_list)

print(f"Average Salary: ${average_salary_result}")

print(f"Total Employees: {Employee.number_of_employee}")

print(f"Fulltime Employee Department: {fulltime_employee.department}")

Average Salary: $70283.33333333333
Total Employees: 4
Fulltime Employee Department: Admin Department
```

Question : 2

```
Program 2
import numpy as num

random_vector = num.random.uniform(1, 20, 20)

Array = random_vector.reshape((4, 5))

max_values = num.max(Array, axis=1)

Array[Array == max_values[:, num.newaxis]] = 0

print(Array)

[[ 0.         7.54054475 12.29799591 15.61293773  5.6414571 ]
 [ 0.         16.91424738 12.94285499 10.32554921  4.42670642]
 [ 7.45681398  0.         8.43433253 10.41786005  9.90727289]
 [15.6119747  15.70994257 12.62920053  0.         3.21494568]]
```