

CN5021 – Programming for Data Science
Week 9 Assessment – Graded 10%
Deadline: Friday 29th November 2024 at 11 am

Question 1 (10 marks)

The file Employee.txt contains employee details of two type of employees, monthly-paid and hourly-paid. The file contains the firstname <String>, surname <String>, gender <String>, rank <String>, type <String> and basic salary <float> in case of a monthly-paid employee, or the hourly rate <float> and number of hours worked <int> in case of a hourly-paid employee . A sample of the file is given below:

John	Smiths	M	manager	monthly	45000.00	
Sunil	Bates	M	senior	hourly	700.00	45
Eva	Leung	F	officer	monthly	30500.00	

Write a program that will look at each employee and calculate the bonus as a percentage of the basic salary. For an hourly-paid employee, the basic salary is taken as the hourly rate times the number of hours worked during the month. If the rank is “officer”, the bonus rate is 20% and if the rank is senior or above, the bonus rate is 15 %. The program should write onto a new file TotalSalary.txt the full details of each employee, namely, the first name, surname, gender and total earned salary (i.e. with bonus).

Note: Define and use appropriate functions in your code. Include comments.

Question 2 (10 marks)

Write a program that reads the employee data of TotalSalary.txt and creates a new file TotalSalarySorted.txt with the same data, but the data of employees are sorted in decreasing order of their total salaries.

Note: Define and use appropriate functions in your code. Include comments.