

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI

BSc. (Telecommunication Engineering) Mid Semester Examinations

C Programming (COE 251)

(2nd Year)

APRIL, 2022

30 MARKS

Duration: 1 HOUR

INSTRUCTIONS

Read the following instructions **carefully**.

1. You are required to use a laptop in this exam.
2. You will be given a work sheet to do your rough calculations.
3. At the end of the exam, submit the question paper together with the work sheet.
4. Do not take away any of the exam materials provided.
5. Make sure your index number is written on all the exam materials.

How to Submit Your Work:

1. In your project folder, identify the **main.c** file and rename it to your index number. For instance, if your index number is **2053244**, the name of the file will be **2053244.c**
Do not add another ".c" to the file name again.
2. Copy the file onto a pendrive and submit the drive at the end of exams. You are required to pick your pendrive a day after the exams. If you have internet access, you can upload your file at <https://exams.sperixlabs.org>

CAUTION: DO NOT TAKE AWAY ANY EXAMINATION MATERIAL PROVIDED TO YOU,
UNLESS YOU ARE TOLD TO DO SO.

PROBLEM OF THE DAY

“Ataa Gob3” is one of the most popular food joints around Engineering gate. Most students go there to enjoy their delicious “gob3”. The common food combination used by students is beans & gari (BG), ripe plantain (RP), plain rice (PR), and an egg.

Sister Ataa, the owner of the food joint, wants to know how much sales she’s expected to make within the week (Monday – Friday) if she decides to offer a discount of 10% on any food bought. Table 1 shows the average number of students who visit her food joint on a daily basis and the combinations used.

As an engineering student, you are required to help Sister Ataa by writing a simple computer program to give her an idea of how much she is expected to make within the week.

Table 1: Average number of students who visit the food joint within the week and the combinations used.

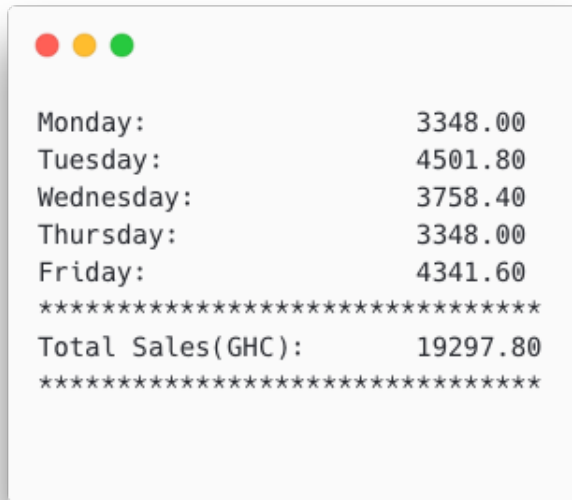
Day	BG (GHC)	RP (GHC)	PR (GHC)	Average Number of Students
Monday	2	1	2	600
Tuesday	3	2	2	610
Wednesday	2.5	2	1.5	580
Thursday	1.5	2	1.5	600
Friday	2	2	2	670

Coding Specifications:

1. Define a global constant for the discount value and also the price of an egg (which is GHC 1.2).

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2. Implement a subroutine called **calculateFoodPrice** that takes the food combinations as inputs and returns the payable amount. Do not pass already defined global constants as input to this subroutine.
3. Choose your data types cautiously.
4. Your program should work as shown in the figure below. All computed operations should be formatted to 2 decimal places (2 dp).



```
Monday:          3348.00
Tuesday:         4501.80
Wednesday:       3758.40
Thursday:        3348.00
Friday:          4341.60
*****
Total Sales(GHC): 19297.80
*****
```

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