

CP1200 Assignment 1 - Part 1 - Catering Calculator

You are to plan and then code a catering calculator program, as described by the information and sample output below. Use what you have learned in class, including selection and repetition, but you may not define any of your own functions or classes or use lists or dictionaries.

At the start of the program a welcome message with your name in it should be shown and the user will be presented with a menu: to view the instructions, calculate or quit.

When the user chooses to calculate, they are asked to put in details for a catering event (number of adults and children, and what type of service). These details should be error-checked until the user gets them right. (The only error checking you need to do is checking that inputs are valid values. You do not need to check that inputs are valid types.) The program will then do the calculation and tell the user the total cost of the catering package. The details you need for the calculations are in the sample output (instructions) below. Consider what values you will make named constants. The program also includes a 1 in 10 random chance that if the user chooses the premium package they will get it for the basic price.

The program returns to the menu and loops until the user chooses to quit.

Sample output from the program is below. You should make your program match this exactly (except for your name). Do not add or remove anything from the program even if you think it would make it better. You must aim to have yours work and look just like this including spaces, spelling – everything.

Planning:

Write up the algorithm in pseudocode – first! Please do this in a docstring at the top of your code file. Make sure to write it properly, following the guide to good pseudocode and examples presented in the subject.

You may show this part of the assignment to your tutor during practical time (after finishing your prac work) to get comments or suggestions. You can only get help from staff in practical time after your prac work is finished, and only if you show your planning. **No help will be given on code without seeing your planning first.**

Program Code:

You need to hand in one complete, functional Python (.py) code file (version 3 not 2) containing appropriate comments (docstring with name, date, description at the top and inline comments as appropriate). Please name this **LastnameFirstnameA1Pt1.py**

Submission:

Your single .py file should be submitted by uploading it on LearnJCU under Assessment.

Due:

The assignment is to be submitted by the date and time specified on LearnJCU. Submissions received after this date will incur late penalties as described in the subject guide.

Sample Output:

Bold text below shows user input for this example.

Welcome to the Great CP1200 Catering Calculator!

Written by Lindsay Ward, March 2012

Menu:

(I)nstructions
(C)alculate Catering
(Q)uit

>>> **u**

Invalid menu choice.

Menu:

(I)nstructions
(C)alculate Catering
(Q)uit

>>> **i**

Enter number of adults and children and choose a service type.

Basic: food only = \$10.00 per adult

Premium: food & drink = \$12.50 per adult

Children are always 60% of the price of adults.

Menu:

(I)nstructions
(C)alculate Catering
(Q)uit

>>> **c**

Please enter the number of adults: **-2**

Please enter the number of adults: **2**

Please enter the number of children: **-1**

Please enter the number of children: **4**

Would you like (B)asic or (P)remium service?: **t**

Would you like (B)asic or (P)remium service?: **b**



Error checking:

- numbers can't be negative
- type must be b or p

That will be \$44.00 for the basic service for 2 adults and 4 children. Enjoy!

Menu:

(I)nstructions
(C)alculate Catering
(Q)uit

>>> **c**

Please enter the number of adults: **2**

Please enter the number of children: **4**

Would you like (B)asic or (P)remium service?: **p**

That will be \$55.00 for the premium service for 2 adults and 4 children. Enjoy!

Menu:

(I)nstructions
(C)alculate Catering
(Q)uit

>>> **c**

Please enter the number of adults: **0**

Please enter the number of children: **10**

Would you like (B)asic or (P)remium service?: **B**

That will be \$60.00 for the basic service for 0 adults and 10 children. Enjoy!

Menu:

(I)nstructions
(C)alculate Catering
(Q)uit

>>> **c**

Please enter the number of adults: **3**

Please enter the number of children: **3**

Would you like (B)asic or (P)remium service?: **P**

That will be \$48.00 for the premium (FREE!) service for 3 adults and 3 children. Enjoy!

Menu:

(I)nstructions
(C)alculate Catering
(Q)uit

>>> **Q**

Thank you for using the Great CP1200 Catering Calculator.

Marking Scheme

Take note of the following marking criteria so that you know what needs to be done for marks.

For example, if you got your program to work, but didn't do any planning and you didn't submit the right files, you would get a maximum of 6/10. Make sure you give attention to what is rewarded here.

Requirement	Marks	Out Of
Algorithm – Pseudocode (clear, complete, well-formatted, consistent, accurate)		3
Program Execution Correct execution for different cases (basic, premium), loop, etc.		1
Error checking		1
Similarity to sample output (including all formatting)		1
Quality of Code Use of appropriate, meaningful variable and constant names		1
Code readability: formatting, indentation, line spacing, etc.		1
Efficient code use (no unnecessary duplication, good logical choices for loop control (not while True), good use of constants, etc.)		1
Useful, descriptive comments (good amount & quality – docstring at top and inline comments)		1
Deductions Incorrect submission (must be 1 .py file with pseudocode at top)		-1
Total		10