

SCIT, University of Wollongong

CSIT110/CSIT810

Autumn Session 2020

Assignment 1 (10%) due on Saturday 24 April 2021 at 00:00AM

Objectives

- Able to write clear code with comments and follow coding convention
- Able to use variables with meaningful names and correct data types
- Able to get user input
- Able to display output

Marking criteria:

- Total mark is 10. Deduct 1 mark for each day late.
- More than 3 days late will result in zero marks.
- Code must compile: 0 marks for the whole assignment if there is a compile error.
- Correct file format (.py extension): 0 marks for the whole assignment if file submission is not in correct format.
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Question 1	correctness, completeness and consistency with the assignment specification	2 mark
Question 2	correctness, completeness and consistency with the assignment specification	2 marks
Question 3	correctness, completeness and consistency with the assignment specification	3 marks
Question 4	correctness, completeness and consistency with the assignment specification	3 marks
Question 5	correctness, completeness and consistency with the assignment specification	0 marks. Challenge yourself
Overall	comments include name, student number, subject code; clear code and follow coding convention; use variables with meaningful names and correct data types	Deduct up to 1 mark

Submission Instruction: Assignment 1 submission is on Moodle. Put all your python code into a single python file (file extension .py) and submit it.

Assignment questions: there are 5 assignment questions.

Write clear code with **comments** and follow **coding conventions**. The script should include **your name, student number** and **subject code** at the top of your code. Please add the information in the form of variables as stated in the template. Your code must work **exactly** like the provided examples.

```
""" Assignment 1 """

name = 'John Snow'
student_num = '1234567' # UOW Student number
subject_code = 'CSIT110'

def question_1():
    ...
```

Question 1

Function name	question_1
Detailed information	<p>Write a program to take in the following input. You may use any text for the prompt Get 5 input from the user. Treat the first 3 inputs as str objects Treat the last 2 inputs as int objects</p> <p>Let <code>new_name</code> be the <code>str</code> type variable that contains a concatenation of the three strings in the order they were received. Let <code>total_number</code> be the sum of the two numbers. Display the following text</p> <p>A new virus, <code>new_name</code>, has been detected! <code>total_number</code> cases have been confirmed.</p>
Example console output	<pre>prompt1 qwe prompt2 dsa prompt3 123 prompt4 90 prompt5 23 A new virus, qwedsa123, has been detected! 113 cases have been confirmed.</pre>

Question 2

Function name	question_2
Detailed information	<p>Write a program to survey shoppers with the following prompts in the given order:</p> <ol style="list-style-type: none"> 1. "Enter Y if you have travelled overseas within the past two weeks: " 2. "Enter Y if anyone in your household is currently serving stay home notice: " 3. "Enter your temperature in degrees Celsius: " <p>If the input for prompts 1 or 2 is a "y" or a "Y", or the temperature entered is greater than or equals to 37.5, print the text "You are not allowed to enter the mall."</p> <p>If the shopper entered "y" or "Y" for the first two prompts, the rest of the questions do not need to be executed.</p> <p>If the shopper did not enter the letter y for the two questions and has a temperature less than 37.5 degrees Celsius, display the text, "Welcome to Lion City Mall"</p> <p>There is a space after each colon, i.e. ": "</p>
Example console output	<p>E.g.1 Enter Y if you have travelled overseas within the past two weeks: Y You are not allowed to enter the maWll.</p> <p>E.g. 2 Enter Y if you have travelled overseas within the past two weeks: n Enter Y if anyone in your household is currently serving stay home notice: y You are not allowed to enter the mall.</p> <p>E.g. 3 Enter Y if you have travelled overseas within the past two weeks: N Enter Y if anyone in your household is currently serving stay home notice: Enter your temperature in Degrees Celsius: 35.5 Welcome to Lion City Mall</p>

Question 3

Function name	question_3
Detailed information	<p>A child would like to learn the multiplication table.</p> <p>Write a program to ask the child to enter two integers, X and N in that order.</p> <p>Next display an X multiplication table that starts from 0 times X to N times X as shown in the example below. Your code must work exactly like, but not limited to, the following example (except the text in bold)</p> <p>There is a space after every colon.</p>
Example console output	<pre>Please enter the value for X: 3 Please enter the value for N: 4 The 3 multiplication table 3 x 0 = 0 3 x 1 = 3 3 x 2 = 6 3 x 3 = 9 3 x 4 = 12</pre>

Question 4.

Function Name	question_4
Detailed Information	<p>A hotel has 3 types of rooms – Single, Twin and Deluxe rooms. The cost of each type of room is as follows: Single room: \$90/night Twin room: \$160/night Deluxe room: \$250/night</p> <p>Write a program to</p> <ul style="list-style-type: none"> - get the number of rooms a customer would like to book for each type of room, and the number of nights of stay, - compute the total cost of the bookings - display the details of the bookings. <p>The total bill should include a 7% g.s.t. There is no need to round the number up or down, display the number to 2 decimal places. The prompts are given in the example below. There is a space following each colon symbol. i.e. ": " You may assume the inputs entered are integers and non-negative. There is an empty line after getting the inputs. In the summary of the booking, the first column is left aligned and has a minimum width of 12 characters, the second column is centre aligned with a minimum width of 3 characters, the last column is right aligned with a minimum width of 9 characters. Your code must work exactly like, but not limited to, the following example (except the text in bold)</p>
Example Console output	<pre> Number of Single room: 4 Number of Twin room: 1 Number of Deluxe room: 0 Length of stay(number of nights): 2 Summary of your booking for 2 night(s) Single room 4 \$720.00 Twin room 1 \$320.00 Deluxe room 0 \$0.00 Subtotal 5 \$1040.00 Total(7% g.s.t) \$1112.80 </pre>

Question 5.

Function Name	question_5
Detailed Information	<p>Tim downloaded a large number of poorly named files, e.g. "patient_zero[20150203].txt", "[shn]shn_batch101.csv", "[x264]psa_recording[1280x720].mp4"</p> <p>and would like to automatically clean up these filenames by removing all instances of square brackets and the contents contained within.</p> <p>Write a Python script that:</p> <ol style="list-style-type: none">1. Prompts for filenames with "Filename?" repeatedly, until an empty string is given2. Prints a string with all the cleaned filenames, separated by commas
Example Console output	<pre>Filename?patient_zero[20150203] .txt Filename?[shn]shn_batch101.csv Filename?[x264]psa_recording[1280x720] .mp4 Filename? patient_zero.txt,shn_batch101.csv,psa_recording .mp4</pre>

Important requirements:

- Your program must use f-string format to produce the exact output as illustrated in the above example.
- Note that every opening square bracket will have a closing square bracket.
- There is no whitespace after each comma.
- There is no whitespace after each question mark in the input prompt

You should test your program for different scenarios.