BRAC University

Department of Computer Science and Engineering

CSE110: Programming Language I

Examination: *Quiz #1* Semester: *Summer 2022*

Date: __ __ / __ __ / 2022 Time: 40 Minutes

ID: _ _ _ _ _ _ _ _	Name: *(Please write in CAPITAL LETTERS)*	Section: **29**

- Read questions carefully.
- Understanding the question is part of the exam, please do not ask questions.

1. Write a Python program that will first read the **name** as input *string* from the user. Then, ask the user to input his/ her **age** as an *integer*. Now, read **5** *integer* numbers from the user using a **while-loop** and calculate the **total** (or sum) of numbers not multiple of **11** and not multiple of **3**. After reading the age and five numbers, you have to do a calculation to find his (biased) salary. Finally, print the information including the calculated salary as shown in the sample output below. **[CO3, CO4]** (**14 Marks**)

Salary Calculations:

If **age** is even	If **age** is odd

`total < 20: (0.2 * age) * 1000`
`total < 50: (0.4 * age) * 1000`
`total < 75: (0.8 * age) * 1000`
`total > 74: (1.0 * age) * 1000`
	`total < 20: (0.1 * age) * 1000`
	`total < 50: (0.3 * age) * 1000`
	`total < 75: (0.7 * age) * 1000`
	`total > 74: (0.5 * age) * 1000`

Sample *Input*/ *Output*:

Sample Input	**Sample Output**
Charlie Cox 39 7 19 34 27 7	Name: Charlie Cox Age: 39 Salary: 19500.0
Ayelet Zurer 52 9 46 13 25 1	Name: Ayelet Zurer Age: 52 Salary: 52000.0

2. Answer any of the two questions below, both for bonus. (**6 Marks** - *each*)

Note: *Bonus will be given if at least one question is answered correctly. Otherwise, the highest number will be considered and no bonus will be given.*

a. Write a Python code for the following: **[CO4]**

- Ask the user to enter the name of his favorite car.
- Ask the user to enter a Number
- Count the number of divisors for the number given in the second step.

Display the name of the user's favorite car, the number of divisors time calculated in the third step.

Sample Input 1:
Toyota
13
Sample Output 1:
Toyota
Toyota

b. Trace the following code given below and show the tracing table with the output column. **[CO4]**

1	`i = 0`
2	`h = 1`
3	`while i < 10:`
4	`    j = i * 12`
5	`    while j <= 36:`
6	`        k = i + j * 4 ** (i + h) + 3 % 2 ** h / 2`
7	`        if j % 2:`
8	`            print(k)`
9	`        else:`
10	`            print("Skip")`
11	`        j = j + 6 * (j % 2) + (j % 2 + 1)`
12	`    i += j % 4 + 1`
13	
14	
15	