Bahria University
Discovering Knowledge

Software Quality Assurance

BSCS 7S

Department of Computer Science
Bahria University, Lahore Campus

Quiz: [2]

Date: 28 Oct 2024

Evaluation of CLO	Question Number	Marks	Obtained Marks
CLO2: Efficiently perform SQA activities using modern software tools and techniques	1.1	5	
	1.2	5	
Total Marks		**10**	

Name: _____ **Roll No:** _____

Question 1:

Suppose a C function find_tax used as part of a software for income tax calculation. The header of the function is as follow:

```
double find_tax (double taxable_income, int age, int number_of_dependents)
```

Each parameters (*taxable_income*, *age* and *number_of_dependents*) must be greater or equal to 0. find_tax returns the *net income tax* (NET_TAX) according to following calculations:

- NET_TAX = BASE_TAX - CREDITS
- BASE_TAX is found as follow
  - if *taxable_income* ≤ 42707 BASE_TAX = *taxable_income* * 15%
  - if 42707 < *taxable_income* ≤ 85414
    BASE_TAX = 6406 + (*taxable_income* - 42707) * 22%
  - if 85414 < *taxable_income* ≤ 132406
    BASE_TAX = 15802 + (*taxable_income* - 85414) * 26%
  - if *taxable_income* > 132406
    BASE_TAX = 28020 + (*taxable_income* - 132406) * 29%

    CREDITS = 10822 + AGE_CREDIT + DEPENDANTS_CREDIT

  - if *age* ≥ 65, AGE_CREDIT = 6720,

    otherwise AGE_CREDIT = 0

  - if *number_of_dependents* * 4300 ≤ 12900,

DEPENDANTS_CREDIT = *number_of_dependents* * 4300 otherwise
DEPENDANTS_CREDIT = 12900

***i*) Using the Equivalence Class Partitioning approach, partition find_tax inputs in Equivalence Classes (5 marks)**.

***ii*) Using the 2 BVA approach, find_tax inputs for the Equivalence Classes (5 marks)**.