|  |  |  |
| --- | --- | --- |
|  | **BAHRIA UNIVERSITY, (Karachi Campus)**  *Department of Software Engineering*  **Assignment 4 - Spring 2023** |  |



COURSE TITLE: **SOFTWARE QUALITY ENGINEERING** COURSE CODE: **SEN-321**

Class: **BSE-6 (B)** Shift: **Morning**

Course Instructor: Sohaib ur RehmanTime Allowed:  **1 Week**

Submission Date: **15th June 2023** Max. Marks: **5 Marks**

**Question No. 1 [CLO4: 5 Marks]**

Solve the following question with the help of the below data:

1. What percentage of test cases were executed?
2. What is the Defect Removal Efficiency (DRE)?
3. How many defects were identified for each priority level (Critical, High, Medium, Low)?
4. What is the percentage of test cases that were not executed?
5. What is the percentage of test cases that failed?

|  |  |  |
| --- | --- | --- |
| **S. No.** | **Testing Metric** | **Data retrieved during test case development & execution** |
| **1** | **No. of requirements** | 6 |
| **2** | **Avg. no. of test cases written per requirement** | 25 |
| **3** | **Total no. of test cases written for all requirements** | 150 |
| **4** | **Total no. of test cases executed** | 150 |
| **5** | **No. of test cases passed** | 120 |
| **6** | **No. of test cases failed** | 25 |
| **7** | **No. of test cases blocked** | 5 |
| **8** | **No. of test cases unexecuted** | 0 |
| **9** | **Total no. of defects identified** | 10 |
| **10** | **Critical defects count** | 3 |
| **11** | **High defects count** | 3 |
| **12** | **Medium defects count** | 2 |
| **13** | **Low defects counts** | 2 |

**Evaluation Criteria:**

Your assignment will be evaluated based on the following criteria:

1. Correctness: Did the students calculate the numerical values accurately based on the given data?
2. Accuracy: Did the students provide the correct values with the appropriate units and precision?
3. Interpretation: Did the students understand the significance and meaning of the calculated values?
4. Explanation: Did the students provide clear explanations or steps to arrive at their answers?
5. Presentation: Did the students organize their answers structured and coherently?
6. Mathematical Skills: Did the students demonstrate proficiency in performing calculations and using relevant formulas or concepts?

**Submission Requirements:**

Your answers should be clear, concise, and free of errors.

Your assignment should be properly formatted with headings, subheadings, and lists where appropriate.

Your assignment should be 3-5 pages in length, double-spaced with 12 pt font size.

Submit a hard copy before 15 June 2023.

**Solution:**

Let's solve the questions based on the given data:

What percentage of test cases were executed?

Percentage of test cases executed = (Total no. of test cases executed / Total no. of test cases written) \* 100

= (150 / 150) \* 100

= 100%

Therefore, 100% of the test cases were executed.

What is the Defect Removal Efficiency (DRE)?

Defect Removal Efficiency (DRE) = (Total no. of defects identified / Total no. of defects injected) \* 100

= (10 / (3 + 3 + 2 + 2)) \* 100

= (10 / 10) \* 100

= 100%

Therefore, the Defect Removal Efficiency (DRE) is 100%.

How many defects were identified for each priority level (Critical, High, Medium, Low)?

Critical defects count: 3

High defects count: 3

Medium defects count: 2

Low defects count: 2

What is the percentage of test cases that were not executed?

Percentage of test cases not executed = (No. of test cases unexecuted / Total no. of test cases written) \* 100

= (0 / 150) \* 100

= 0%

Therefore, 0% of the test cases were not executed.

What is the percentage of test cases that failed?

Percentage of test cases failed = (No. of test cases failed / Total no. of test cases executed) \* 100

= (25 / 150) \* 100

= 16.67%

Therefore, approximately 16.67% of the test cases failed.

Note: The answers provided above are based on the calculations using the given data. Make sure to double-check the calculations and provide appropriate units and precision when presenting the answers in your assignment.