

CS 362 - Software Engineering II

Homework 5

Question topics - Test design techniques: Equivalence partition and Boundary Value Analysis and exploration, Version control, SWE Methodologies.

Question 1

10 points

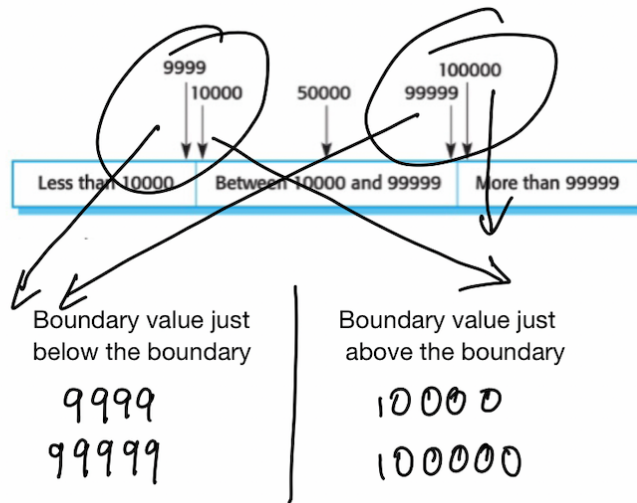
Specification: A program that contains a “**date field**” that accepts values between **1** and **31**. (Values are inclusive)

What will be your equivalence partitions for these specifications? Write its valid and invalid equivalence partitions.

How would you do the same using the BVA method? Apply BVA for the same specification above.

Deliverable:

- i) Valid classes and explanation.
- ii) Invalid classes and explanation.
- iii) Boundary values below and above the boundaries - Refer to the image below (applies to Questions 1, 2, and 3).



OR

CONDITION LESS THAN 10000		CONDITION MORE THAN 99999	
BELOW BOUNDARY	ABOVE BOUNDARY	BELOW BOUNDARY	ABOVE BOUNDARY
9999	10000	99999	100000

Question 2

10 points

Specification: A program accepts a **username that is 7-10 characters long**. What will be your equivalence partitions for these specifications? Write its valid and invalid equivalence partitions. (Values are inclusive).

How would you do the same using the BVA method? Apply BVA for the same specification above.

Deliverable:

- i) Valid classes and explanation
 - ii) Invalid classes and explanation
 - iii) Boundary values below and above the boundaries: Refer to the image
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Question 3

10 points

Specification: A program accepts an age as input but the ages it can accept are 16 - 70 except 60-65. (Values are inclusive)

What will be your equivalence partitions for these specifications? Write its valid and invalid equivalence partitions.

How would you do the same using the BVA method? Apply BVA for the same specification above.

Deliverable:

- i) Valid classes and explanation
 - ii) Invalid classes and explanation
 - iii) Boundary values below and above the boundaries: Refer to the image
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Question 4

10 points

Is unit testing considered black-box or white-box testing? Provide an example of black-box testing, and unit testing in the context of the social media system from in-class activity 1.

Deliverable:

i) Explain whether or not unit testing is considered black-box or white-box testing. Support this with an example.

Question 5

15 points

In the context of your social media system from in-class activity 1, explain the following.

1. Explain how you would perform unit testing. What are some areas that would require unit tests? (Should be specific, example: Would use a **X** testing framework to test **Y**.)
 2. Explain black-box testing with respect to your social media system. What are the areas in the system that you could test in a black-box manner?
 3. How would version control and a software engineering methodology benefit the developers working on your social media system?
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