**Program Exit Assessment Reflection**

Mathematics for Computer Science – 201-C01-HR

**Instructions**: For your Program Exit Assessment (PEA) you will choose one of the topics we have studied this semester, give a short summary of the topic, and find one area in Computer Science where your chosen topic is used.

**Format**: Your PEA reflection must be in the form of a 500-word written document.

**Grading**: Your PEA reflection will be graded according to the rubric found at the end of this document. A mark out of 50 will be given as part of your lab grade. Separately, you must attain a score of 3 points in every category to complete the Mathematics component of the Computer Science PEA. Resubmission will be allowed up until the day of our final exam, but this resubmission will not affect your lab grade out of 50, it will only affect whether or not you completed the Mathematics component of the Computer Science PEA.

Topic : Propositional logic – (discrete mathematics, proofs, Boolean logic etc.)

In the Math for Computer Science class, learning about propositional logic taught me many of things such as the use and the meaning of not, and, or, xor and nand gates as well as the use of symbols and truth tables in time, helping me with Boolean equations and expressions in java programing. A typical problem would be described using something like a flowchart however problems that I have seen before concerning Propositional logic would be something like truth tables or using Boolean algebra with negation disjunction and conjunction. In the programming I course we used propositional logic and turned it into Boolean expressions for our if else statements and other things such as a part of while loop explanation. It is where the computer gets an input from the user to make it think whether something is true or not as well as if it should keep doing what it was doing or not. To specify, the usage of Boolean expressions in the java programming class is used to tell the computer which way to go (and which way not to go) according to the clients answer/input after a question is asked. This may lead to other questions or a general answer including the Boolean idea of true and false. As well as the use of characters such as greater than or equals to, lesser than or equals to, the and symbol, the or symbol, the not symbol, and finally the xor symbol. All of these may be used inside equations to prove whether something is right or wrong, true, or false and as the computer 0 or 1.

In programming, propositional logic is widely used for many different paths. It is very often that you must ask the client of your code to choose between one thing and another which will make you have to have a few options at least. These options may be divided by if statements and Boolean expressions within Boolean variables. These Boolean expressions are ways to tell the computer whether the value of the variable is either true or false by using Boolean algebra. For example, say you are making an online survey for your students and the first question you ask is, “do you think of yourself closer to an introvert or an extrovert?”. The answer of the student however will decide the next question depending on the answer they. gave before the next. This will be decided using java Boolean logic and mathematical Propositional logic.

A reference to my work:

https://www.cis.upenn.edu/~matuszek/General/JavaSyntax/boolean-expressions.html - this website helped me find what week of information I should have chosen for java Boolean expression.

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**Rubric**: To get 4 points for a category, you must meet the criteria for getting 3 points as well. To get 5 points for a category, you must meet the criteria for getting 3 and 4 points as well.

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| --- | --- | --- | --- | --- |
| Category | × | 3 Points | 4 Points | 5 points |
| Topic | 1 | A topic is present. | The topic is accurate. | The topic is clear. |
| Summary of  topic | 1 | A summary of the topic is present. | The summary of the topic is accurate. | The summary of the topic is complete. |
| Example of  topic | 1 | An example is stated. | The example is accurate. | The example is clear and well explained. |
| Field in Computer Science | 1 | A field in Computer Science is present | The field in Computer Science is relevant  . | The field in Computer Science is clear. |
| Link between field and topic | 2 | A link is identified. | The link is appropriate. | The link is well explained. |
| Example of link between field and topic | 1 | An example is stated. | The example is accurate. | The example is clear and well explained. |
| References | 1 | A reference is present. | The reference is relevant. | The reference is used appropriately in the text. |
| Format | 1 | The reflection is of sufficient length. | The reflection is well-organized  and not overly lengthy. | The reflection is a cohesive unit. |
| English | 1 | There are few spelling or grammar errors. | There is less than two spelling or grammar errors. | There are no spelling or grammar errors. |