**CS2150L Surprise Quiz #3**

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| First Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Last Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
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* You **may** utilize search engines (such as Google) to search for information.
* You **may** use any previous or future Lab handouts.
* You **may** ask other classmates, using any means of communication, any questions during the quiz.

1. You are given the following table containing two points of a function.

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |

Give a polynomial in lagrange form that would approximate the function based on these two points. [5]

1. What would be the degree of the polynomial created above? Simplify the expression above. [10]
2. You are given the following table containing two points of a function.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  | 10 |
|  |  |  | 56 |

Create a table of divided difference from the table above.

1. From the table created in 3 give a polynomial in newton form that would approximate the function given in the table.

5. Observing the values given in the table can you suggest a better way to create a table such the corresponding approximation would be better?