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Assignment # 4

Question : Construct an appropriate polynomial for the following data using Hermite basis by following the question below step by step:

X	f(x)	f'(x)
-1	0	1
0	1	0
1	0	1

1. [4 marks] Find the Lagrange basis from the given data above.
2. [4 marks] Using the values in part i, compute the required Hermite basis.
3. [1 mark] Finally find the expression of the interpolating Hermite polynomial.
4. [1 mark] Use the expression to determine the approximate value at $x = 0.5$.

Follow the Submission instruction below:

- Solve all the problems above in orderly fashion.



- Prepare a title page including: Your Name, Your BracU ID#, Theory Section # and the Assignment #.
- Prepare a single .pdf or .jpg file containing the title page and the solution pages.
- To submit your assignment solution, visit the Submission Link ([Click here](#)). This will take you to a Google Form link.
- Fill up the Google Form link with correct information and upload the file there. You are done.

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