

Eso208

Programming Assignment 3

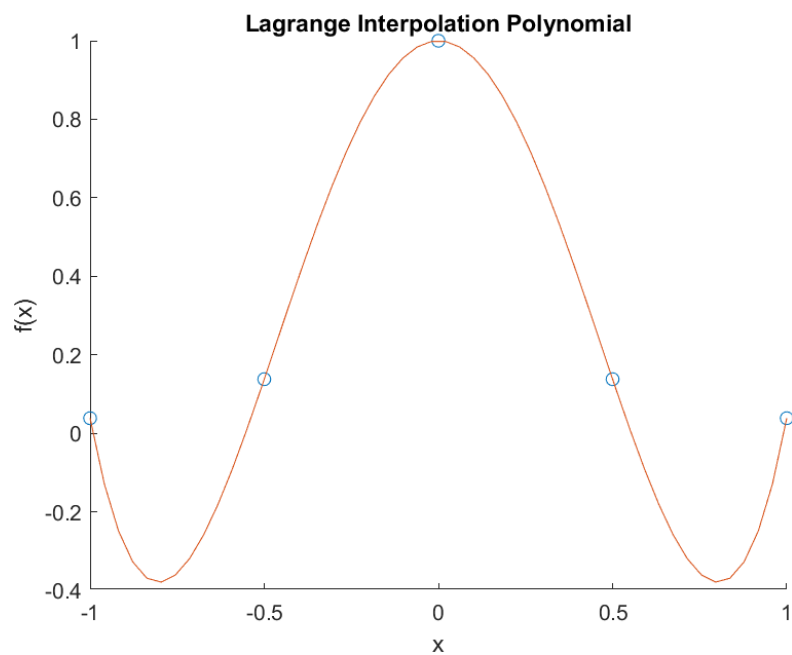
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1. Input_lagrange.txt

```
5
-1.000      0.0385
-0.500      0.1379 0.000      1.0000
0.500  0.1379
1.000  0.0385
4
-0.8000
-0.2000
0.2000
0.8000
```

The interpolated polynomial is:

$3.315867x^4 + -0.000000x^3 + -4.277367x^2 + -0.000000x + 1.000000$



2. input_natural.txt

```
5
-1.000      0.0385
-0.500      0.1379
0.000  1.0000
0.500  0.1379
1.000  0.0385
4
-0.8000
-0.2000
0.2000
0.8000
```

```
>> natural_cubic
```

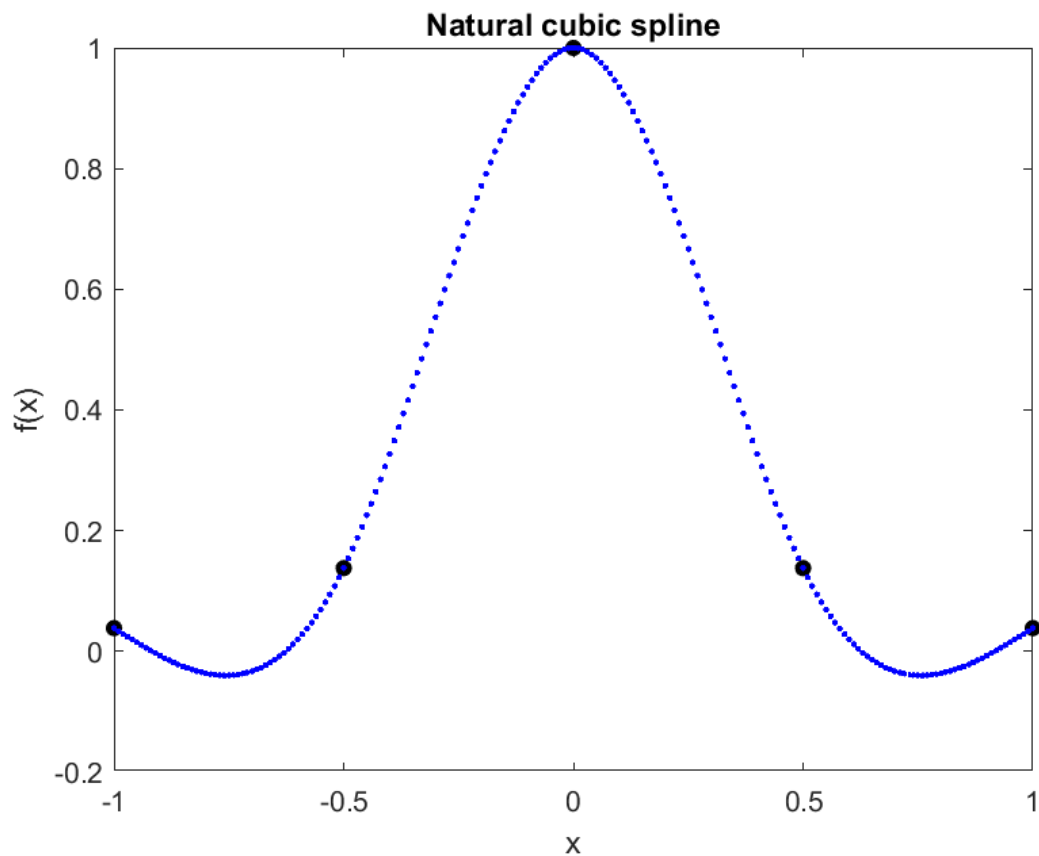
Enter the number of data points and the input data points and the number of points and the corresponding abscissa where the value of y has to be estimated in a file named 'input1.txt'

Q =

```
-0.8000 -0.0363  
-0.2000 0.7716  
0.2000 0.7716  
0.8000 -0.0363
```

Cubic Spline:

```
-0.800000  
-0.200000  
0.200000  
0.800000  
-0.036340  
0.771569  
0.771569  
-0.036340
```



3. input_natural.txt

```
20  
0.051 0.687  
0.073 0.983  
0.089 0.857  
0.798 9.997  
0.943 18.345  
0.684 6.233  
0.132 0.994
```

0.723	6.805
0.11	0.845
0.117	1.278
0.641	4.622
0.329	1.633
0.654	5.462
0.749	7.621
0.583	4.249
0.74	7.61
0.235	0.935
0.735	7.564
0.971	20.224
0.867	12.94

>> least

Give your no. of data and data points in a file named 'input_least.txt'

Please enter the degree of the polynomial for regression

1

>> least

Give your no. of data and data points in a file named 'input_least.txt'

Please enter the degree of the polynomial for regression

2

>> least

Give your no. of data and data points in a file named 'input_least.txt'

Please enter the degree of the polynomial for regression

3

>> least

Give your no. of data and data points in a file named 'input_least.txt'

Please enter the degree of the polynomial for regression

4

Coefficient are :

-1.859589

15.363438

R-sq is : 0.866552

Figure 1

File Edit View Insert Tools Desktop Window Help



Link/Unlink Plot

