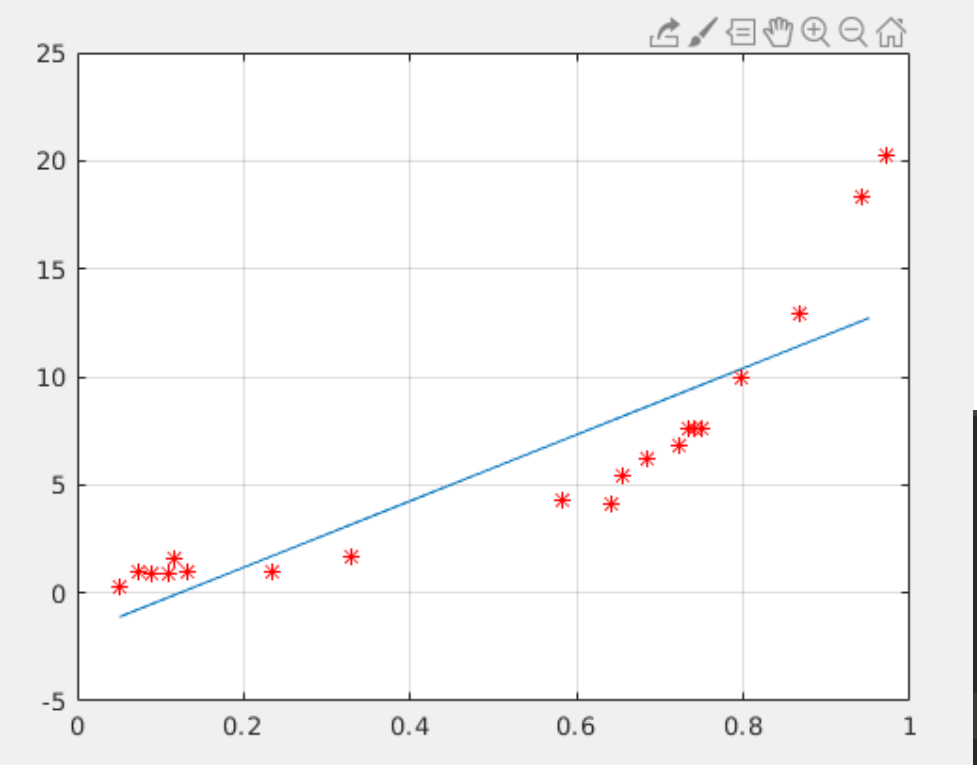
Test Cases given in Assignment:

TestCase (A) -->

Sample input file

0.051	0.287
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
0.110	0.845
0.117	1.578
0.641	4.122
0.329	1.633
0.654	5.462
0.749	7.621
0.583	4.249
0.740	7.610
0.235	0.935
0.735	7.564
0.971	20.224
0.867	12.940

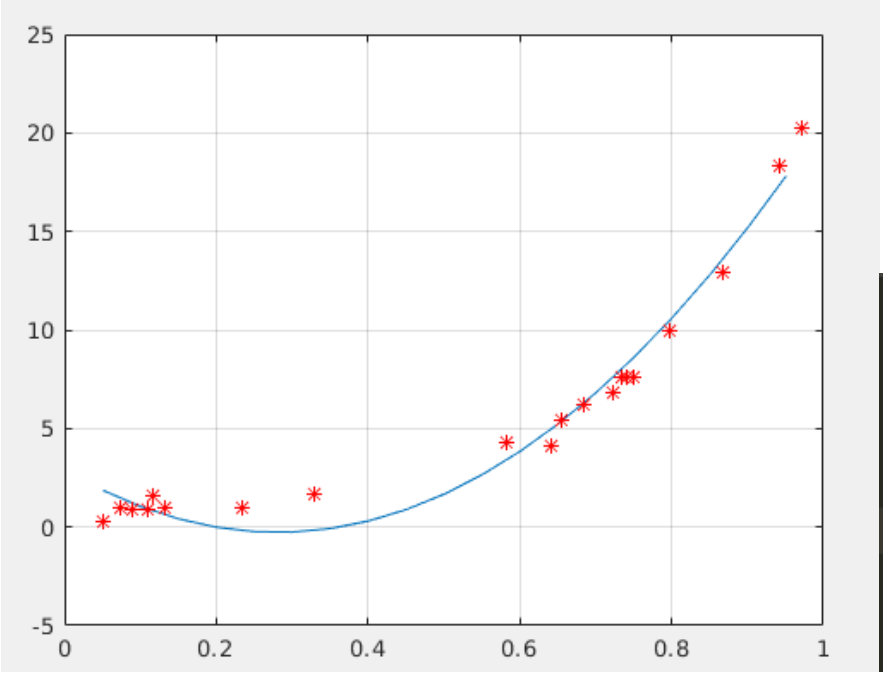
Linear Least Square :




```
Coefficient =
-1.890
15.364

R-sq =
0.7572
```

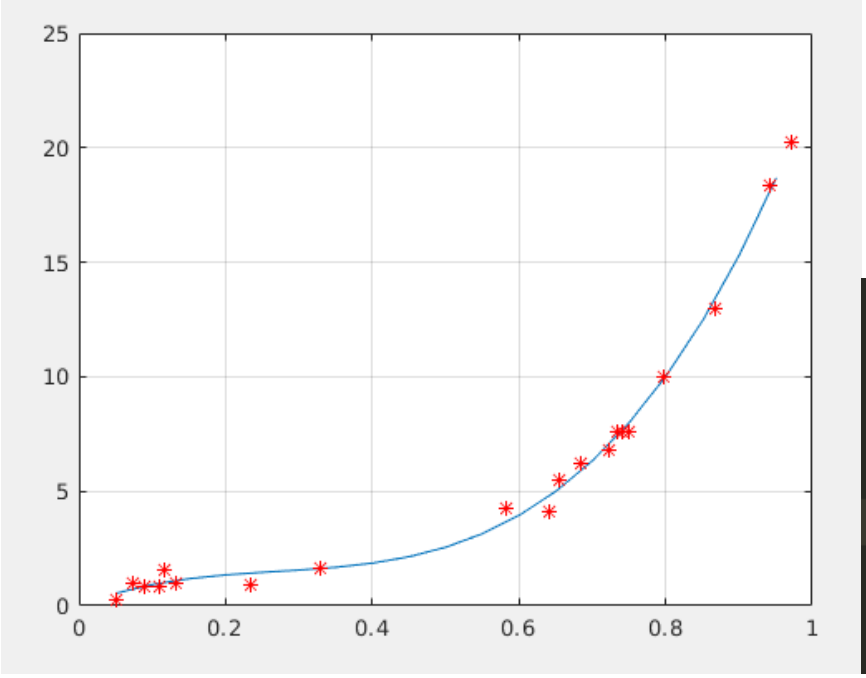
Quadratic:




```
Coefficient =
 2.907
-22.626
40.279

R-sq =
0.9765
```

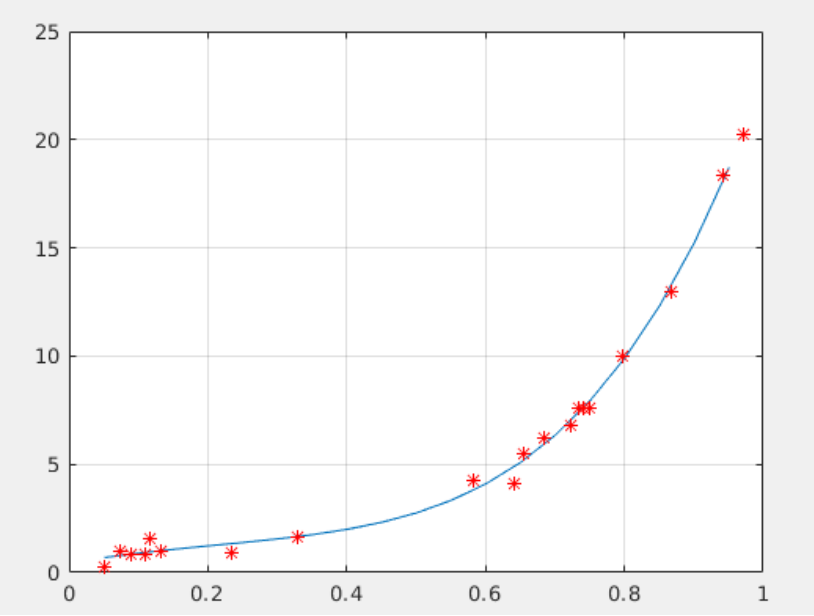
Cubic :




```
Coefficient =
-0.010
12.917
-40.710
50.262

R-sq =
0.9965
```

Quartic:




```
Coefficient =
 0.466
 4.773
-4.973
-4.250
26.747

R-sq =
0.9968
```

TestCase (D) -->

input x and y

-1.000	0.0385
-0.500	0.1379
0.000	1.0000
0.500	0.1379
1.000	0.0385

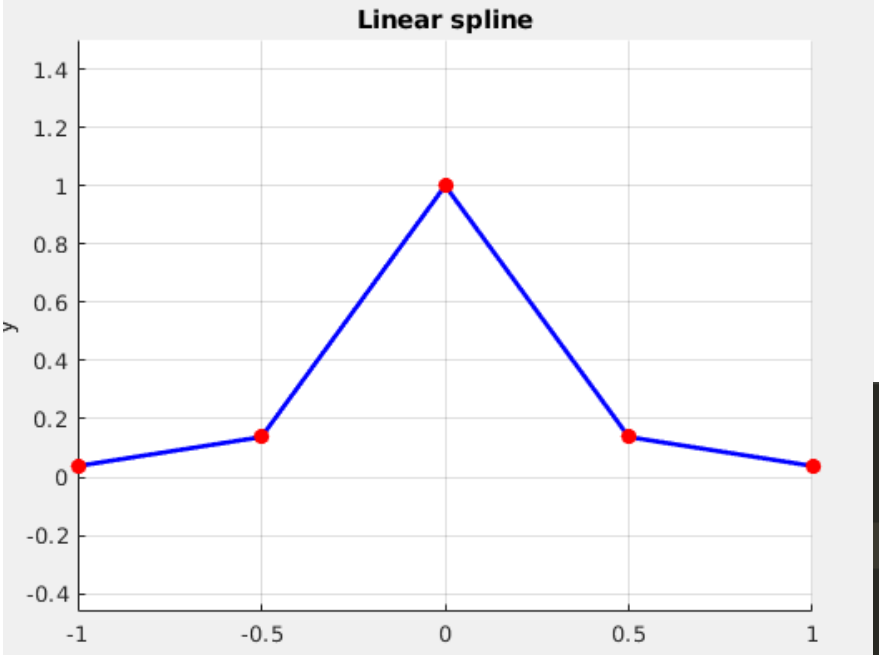
points where function has to be evaluated (x*)

-0.8000
-0.2000
0.2000
0.8000

slope at the first (s0) and the last node (sn)

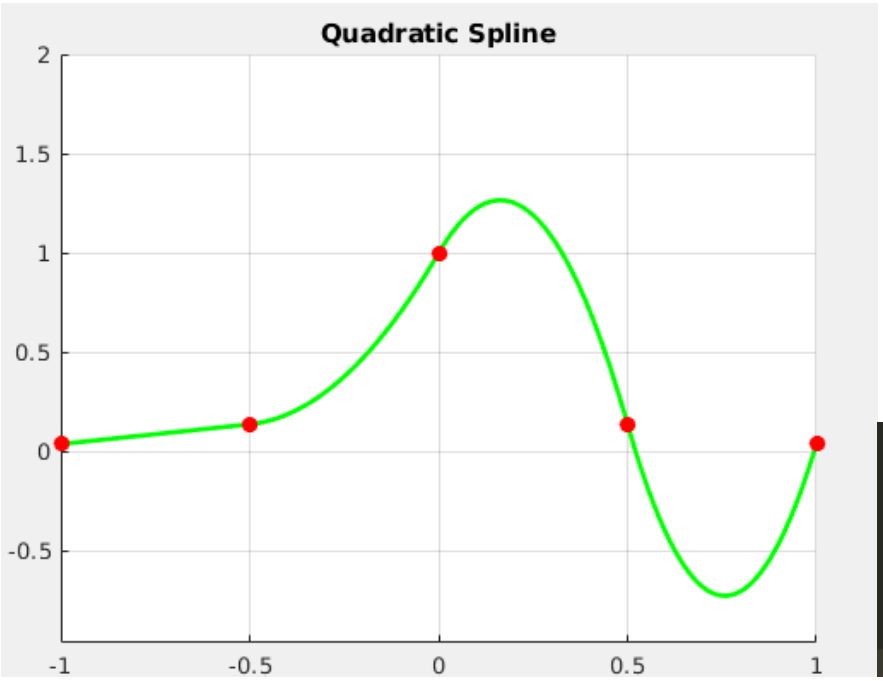
-1.0000 1.5000

Linear Spline:



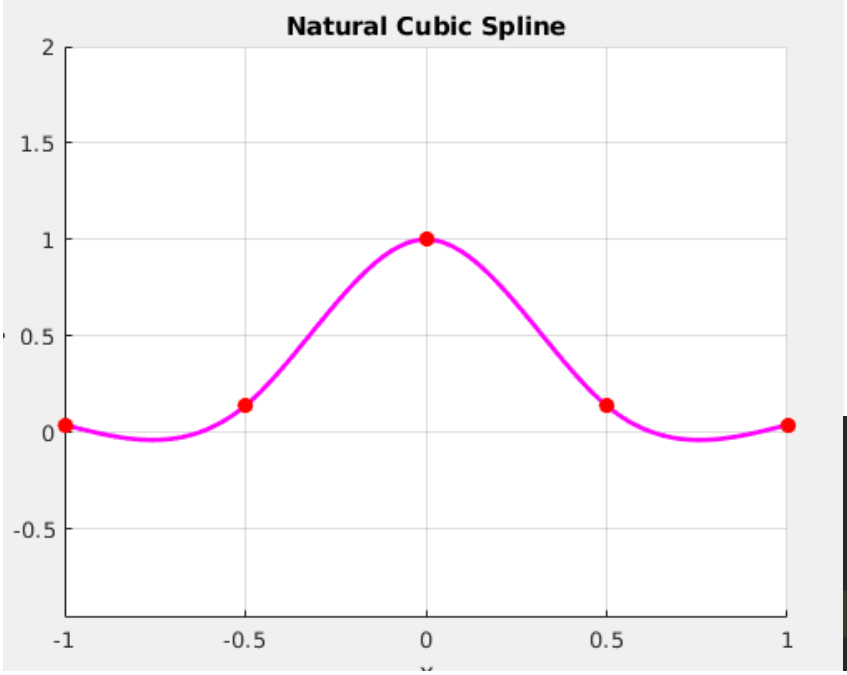

```
Linear spline
-0.8000 0.0783
-0.2000 0.6552
0.2000 0.6552
0.8000 0.0783
```

Quadratic spline:



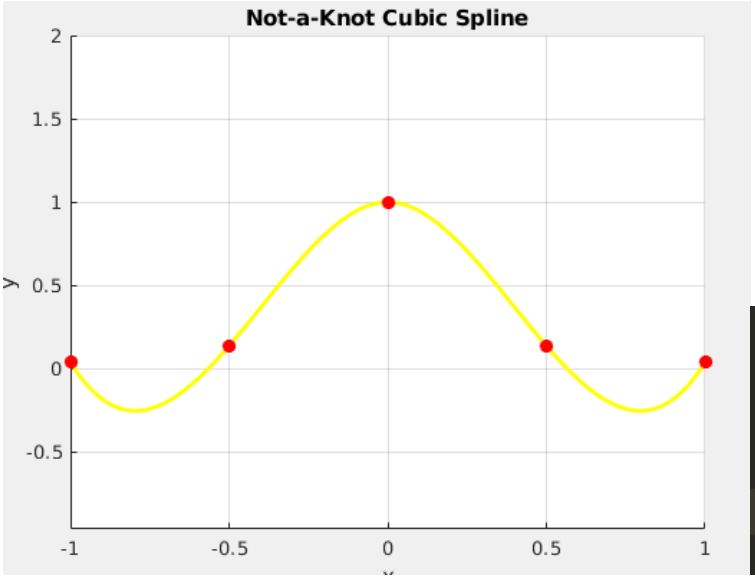

```
Quadratic spline
-0.8000 0.0783
-0.2000 0.4721
0.2000 1.2520
0.8000 -0.7016
```

Natural spline:



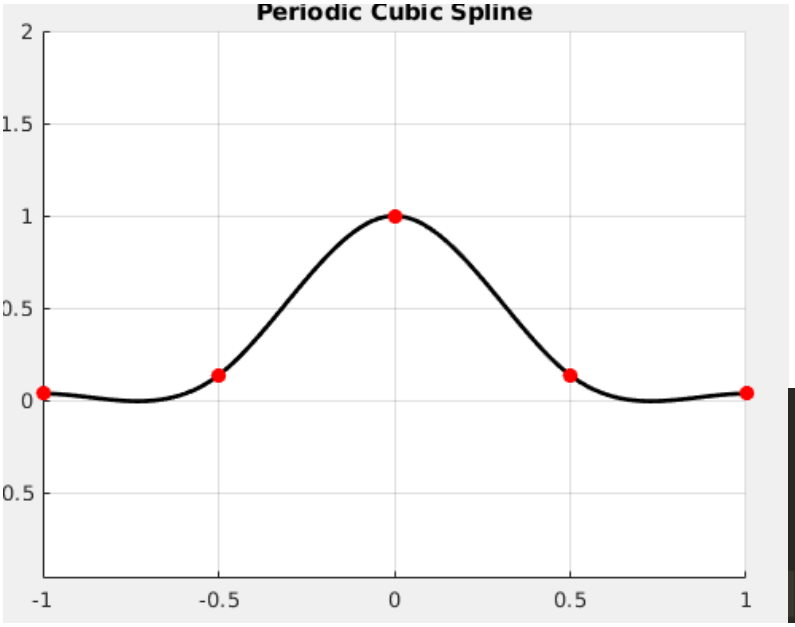

```
Natural Cubic spline
-0.8000 -0.0363
-0.2000 0.7716
0.2000 0.7716
0.8000 -0.0363
```

Not-a-knot spline:



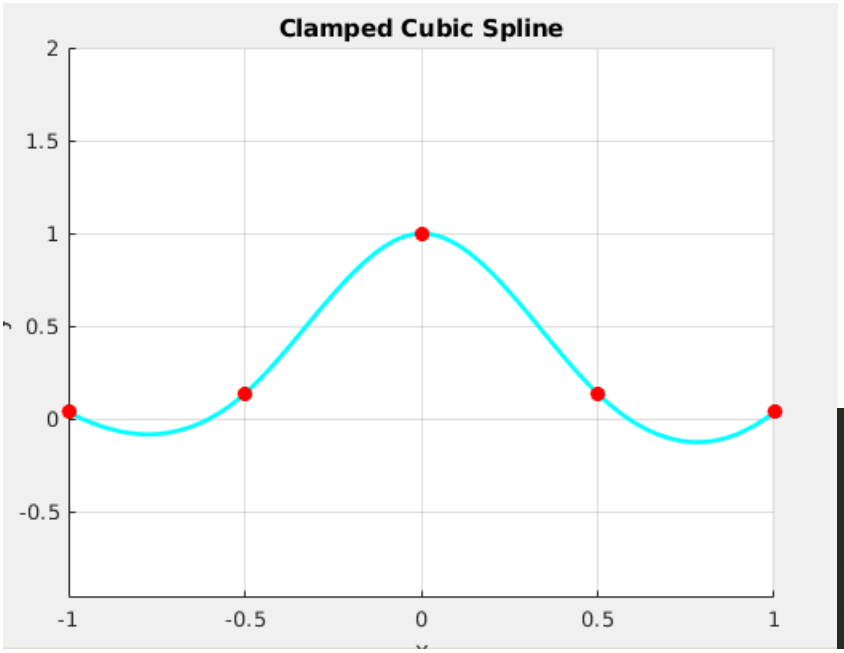

```
Not-a-Knot Cubic spline
-0.8000 -0.2520
-0.2000 0.8024
0.2000 0.8024
0.8000 -0.2520
```

Periodic spline:




```
Periodic Cubic spline
-0.8000 0.0043
-0.2000 0.7658
0.2000 0.7658
0.8000 0.0043
```

Clamped spline:




```
Clamped Cubic spline
-0.8000 -0.0793
-0.2000 0.7748
0.2000 0.7868
0.8000 -0.1222
```
