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## Example 0 Student: Daniel Clark

```
clear all                                     % Instructor: Dr. Ha-Rok Bae
close all                                    % Class: ME 7060 Spring 2016
clc
format shorte
```

```
S = [1;2;3;4]
```

```
Y = [4;7;10;13]
```

```
S =
```

```
1
2
3
4
```

```
Y =
```

```
4
7
10
13
```

## linear

```
F_lin = [ones(length(S),1),S]
beta = (F_lin'*F_lin)\(F_lin'*Y)
Tables_lm = fitlm(S,Y);
```

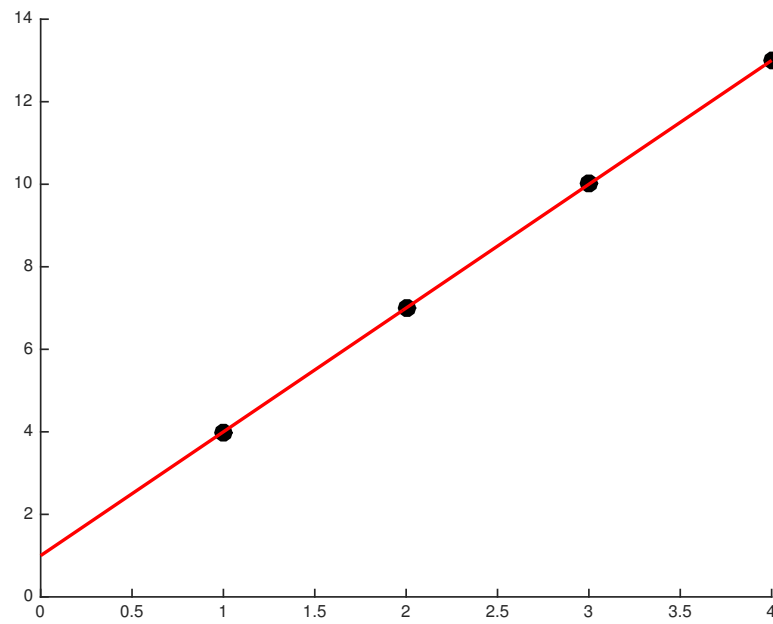
```
F_lin =
```

```
1    1
1    2
1    3
```

```
1      4
```

```
beta =
```

```
1.0000e+00
3.0000e+00
```



**nonlinear**

```
F_lin = [ones(length(S),1),S,S.^2]
beta = (F_lin'*F_lin)\(F_lin'*Y)
Tables_nlm = fitlm(S,Y,'purequadratic');

y_hat = beta(1) + x*beta(2) + x.^2*beta(3);
```

```
F_lin =
```

```
1      1      1
1      2      4
1      3      9
1      4     16
```

beta =

1.0000e+00  
3.0000e+00  
0

