

Code of homework 5:

```
clear;  
close;  
home;
```

```
% Question 1
```

```
X = csvread("StockData_2015_2025.csv");  
plot(X(:,1), X(:,2), '-','color','black');  
xlabel('Days');  
ylabel('Price (USD)');
```

```
% Question 2
```

```
N = length(X);  
fs = 1;  
fmax = fs/2;  
f = linspace(0, fmax, N/2);
```

```
y = abs(fft(X(:,2)));  
y = y(1:end/2);
```

```
semilogy(f, y, '-','color','black')
```

```
% Question 3
```

```
fs = 1;  
dt = 1/fs;  
T = 365.0;  
t = [dt:dt:T];  
x = X(:,2);
```

```
kern = ones(30, 1)/30;  
Y = conv(x, kern);
```

```
subplot(2, 1, 1);  
plot(X(:,1), X(:,2), '-','color','black');  
xlabel('Days');  
ylabel('Price (USD)');  
subplot(2, 1, 2);  
plot(Y);  
xlabel('Days');  
ylabel('Price (USD)');
```