

```
In [2]: q6c()
```

H:

```
[[-0.2 -0.4 -0.4 -0.8 ]  
 [-0.4 0.86666667 -0.13333333 -0.26666667]  
 [-0.4 -0.13333333 0.86666667 -0.26666667]  
 [-0.8 -0.26666667 -0.26666667 0.46666667]]
```

Ha:

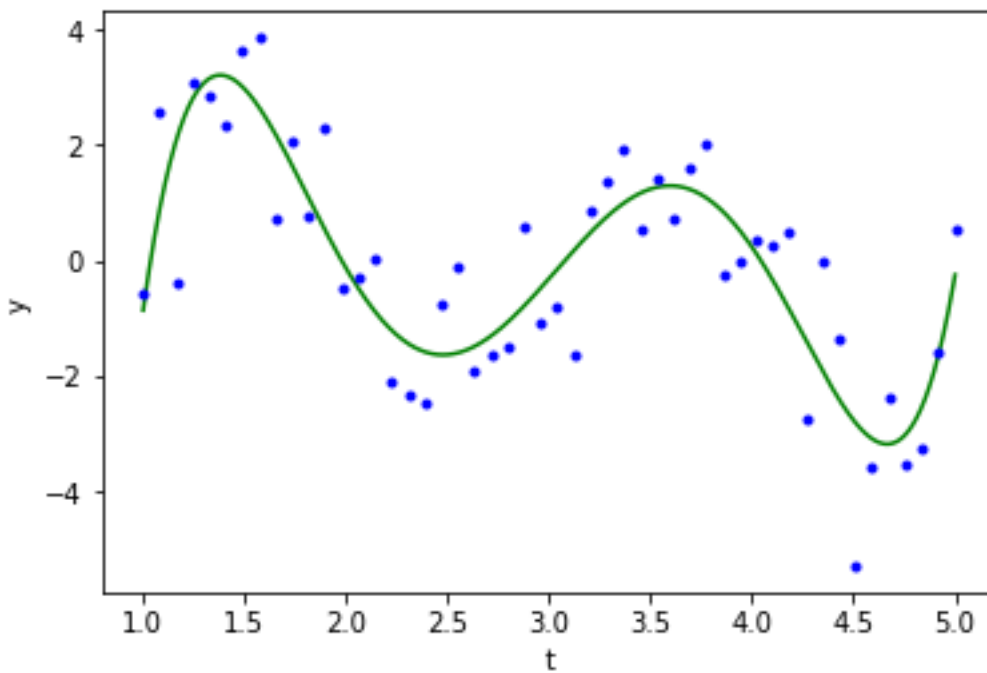
```
[[-5.]  
 [ 0.]  
 [ 0.]  
 [ 0.]]
```

```
In [3]: fitpoly()
```

Question 8(b):

```
x = [-121.78516859 273.06921238 -221.31652045 82.64636856 -  
14.43015538  
0.95268864]
```

Question 8(c). Data and fitted polynomial



```
In [4]: testOCR()
```

Question 10(b):

```
N = 10
mu =
[ 1.96491525  3.4671161 ]
Sigma =
[[ 2.01522353  1.39074961]
 [ 1.39074961  1.57839472]]
```

```
N = 100
mu =
[ 1.73495847  2.82276067]
Sigma =
[[ 3.10903467  2.48792029]
 [ 2.48792029  3.69767913]]
```

```
N = 10000
mu =
[ 1.99236548  3.00144547]
Sigma =
[[ 4.07268213  3.06582518]
 [ 3.06582518  4.0343537 ]]
```

```
N = 1000000
mu =
[ 2.00407192  3.00127397]
Sigma =
[[ 4.00803505  3.0098684 ]
 [ 3.0098684  4.00998289]]
```

Question 10(c):
norm of p1-p2 = 1.167e-17

Question 10(a). 1000 points of multivariate normal data

