

```
In [15]: import numpy as np
```

Question1

```
In [17]: A = np.array([[1, 0], [0, 1], [1, 1]])  
B = np.array([-1, 1, 0])
```

```
In [22]: AT_A = np.matmul(A.T, A)  
print(AT_A)
```

```
[[2 1]  
 [1 2]]
```

```
In [24]: inv_AT_A = np.linalg.inv(AT_A)  
print(inv_AT_A)
```

```
[[ 0.66666667 -0.33333333]  
 [-0.33333333  0.66666667]]
```

```
In [26]: x = np.matmul(np.matmul(inv_AT_A, A.T), B)  
print(x, x.shape)
```

```
[-1.  1.] (2,)
```