q1-e

October 14, 2019

0.1 Question 1- e

In [3]:
```
import numpy as np

def cost_calculator(prices, input_matrix, quantities):
    '''
    Description:

    inputs:
        prices= vector of prices of the inputs
        quantities = vector of the desire quantities to produce
        input_matrix = matrix that specifiy the quantities of factors
        to produce one quantitie.
    output:
        total cost and individual cost of each element.
    '''
    p_by_matrix = np.dot(input_matrix, prices)
    total_cost = np.dot(q, p_by_matrix)
    rv =print("Total Cost equal to "+str(total_cost)\
              +"\n"+"The price for one " +"Road is $"\
              +str(p_by_matrix[0])+"\n"+"The price for one "\
              +"Settlement is $"+str(p_by_matrix[1])+"\n"\
              +"The price for one " +"City is $"+str(p_by_matrix[2])\
              +"\n"+"The price for one " +"Dev. Card is $"+str(p_by_matrix[3]))
    return rv

prod_matrix =[[1,0,0,0,1],[1,1,1,0,1],[0,2,0,3,0],[0,1,1,1,0]]
p = [1,5,3,8,2]
q = [1,1,1,1]

cost_calculator(p,prod_matrix,q)
```

```
Total Cost equal to 64
The price for one Road is $3
The price for one Settlement is $11
The price for one City is $34
The price for one Dev. Card is $16
```

In [ ]: