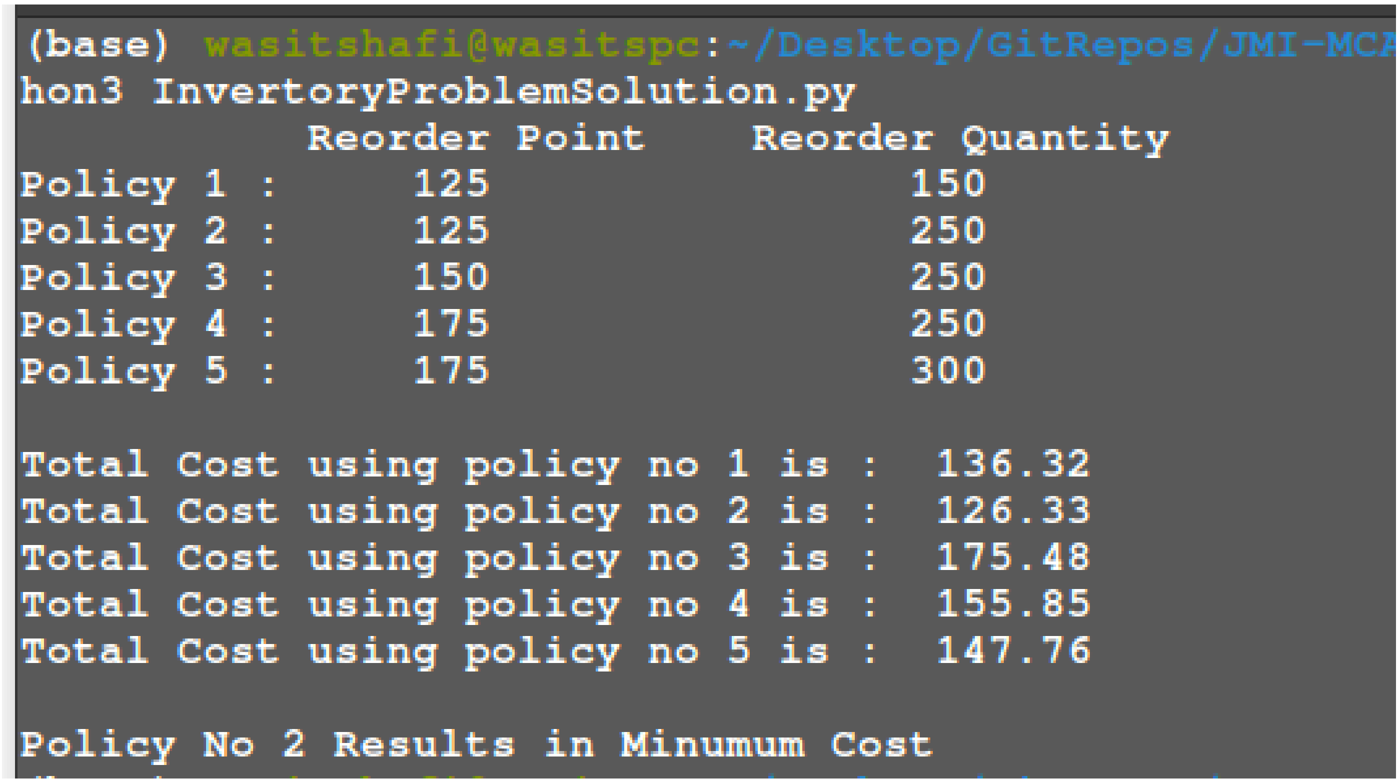
Name : Wasit Shafi **Roll no : 18MCA054** **Date : 03-SEP-2020**

```
# Inventory Probelm Solution
import sys
import random

def func(reorder_point, reorder_quantity):
    N = 180
    total_cost = 0.0
    stock = 155
    outstanding_order = 0
    due_date = 0

    for i in range(1,N+1):
        if due_date == i:
            stock += reorder_quantity
            outstanding_order = 0
        else:
            demand = random.uniform(1, 98)
            if demand > stock:
                total_cost += (demand - stock) * 18
                stock = 0
            else:
                stock = stock - demand
                total_cost = total_cost + stock * .75

            equivalent_stock  = stock + outstanding_order

            if(equivalent_stock <= reorder_point):
                outstanding_order = reorder_point
                due_date = i + 3
                total_cost = total_cost + 75
        return total_cost

print('           Reorder Point    Reorder Quantity')
print('Policy 1 :     125              150')
print('Policy 2 :     125              250')
print('Policy 3 :     150              250')
print('Policy 4 :     175              250')
print('Policy 5 :     175              300')

costs=[]
costs.append(func(125, 150))
costs.append(func(125, 250))
costs.append(func(150, 250))
costs.append(func(175, 250))
costs.append(func(175, 300))

policy_no = 1
min = sys.maxsize
min_cost_policy = 0
```

```
print()
for c in costs:
    print('Total Cost using policy no', policy_no, 'is : ', '{:.2f}'.format(c))
    if c < min:
        min = c
        min_cost_policy_no = policy_no
    policy_no +=1

print('\nPolicy No ', min_cost_policy_no, 'Results in Minumum Cost')
```

OUTPUT :



```
 (base) wasitshafi@wasitspc:~/Desktop/GitRepos/JMI-MCA
hon3 InvertoryProblemSolution.py
                  Reorder Point      Reorder Quantity
Policy 1 :        125                      150
Policy 2 :        125                      250
Policy 3 :        150                      250
Policy 4 :        175                      250
Policy 5 :        175                      300

Total Cost using policy no 1 is :   136.32
Total Cost using policy no 2 is :   126.33
Total Cost using policy no 3 is :   175.48
Total Cost using policy no 4 is :   155.85
Total Cost using policy no 5 is :   147.76

Policy No 2 Results in Minumum Cost
```