PROGRAM 7.4.1:

```
#AMIT CHAUHAN
#RA2311004010332 ECE-F

#1 & 2.Creating a dictionary which consists of the students name,assigment,Lab,test marks
s1={"name":"student1","assignment":[80,50,40,20],"test":[75,75],"lab":[78.20,77.20]}
s2={"name":"student2","assignment":[82,56,44,30],"test":[80,80],"lab":[67.90,78.72]}
s3={"name":"student3","assignment":[77,82,23,39],"test":[78,77],"lab":[80,80]}
s4={"name":"student4","assignment":[67,55,77,21],"test":[40,50],"lab":[69,44.56]}
s5={"name":"student5","assignment":[29,89,60,56],"test":[65,56],"lab":[50,40.6]}
#Function to calculate average marks
def get_average(marks):
    total_sum=float(sum(marks))
    return total_sum/len(marks)
#Function to calculate total marks for each studnt based on weightage of assignment,test and lab marks
def calculate_total_mark(students):
    assignment=get_average(students["assignment"])
    test=get_average(students["test"])
    lab=get_average(students["lab"])
    return (0.1*assignment+0.7*test+0.2*lab)
def assign_letter_grade(score):
    if score>=90:return"A"
    elif score>=80:return "B"
    elif score>=70:return "C"
    elif score>=60:return "E"
    else:return "E"
def class_average_is(student_list):
    result_list=[]
    for student in student_list:
        stud_avg=calculate_total_mark(student)
        result_list.append(stud_avg)
        return get_average(result_list)
students=[s1,s2,s3,s4,s5]
for i in students:
    print(i["name"])
    print("=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=")
    print("Total mark of %s is:%s"%(i["name"],calculate_total_mark(i)))
    print("Letter Grade of %s is :%s"%(i["name"],assign_letter_grade(calculate_total_mark(i))))
    print()
class_av=class_average_is(students)
print("Class Average is %s" %(class_av))
print("Letter Grade of the class is %s"%(assign_letter_grade(class_av)))
```

```
student1
=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=
Total mark of student1 is:72.79
Letter Grade of student1 is :C

student2
=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=
Total mark of student2 is:75.962
Letter Grade of student2 is :C

student3
=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=
Total mark of student3 is:75.775
Letter Grade of student3 is :C

student4
=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=
Total mark of student4 is:48.356
Letter Grade of student4 is :E

student5
=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=+=
Total mark of student5 is:57.26
Letter Grade of student5 is :E

Class Average is 72.79
Letter Grade of the class is C
```

PROGRAM 7.4.2:

```
#AMIT CHAUHAN
#RA2311004010332 ECE-F

#Create the prices dictionary:
prices={}
#Add values
prices["banana"]=4
prices["apple"]= 2
prices["orange"]= 1.5
prices["pear"]= 3
#Create the stock dictionary
stock={}
#Add values
stock["banana"]= 6
stock["apple"]= 0
stock["orange"] =32
stock["pear"]= 15
#Show all prices and stock
for food in prices:
    print (food)
    print ("price: %s" % prices[food])
    print ("stock: %s" % stock[food])
total=0
for price in prices:
    money= prices[price]*stock[price]
    print (money)
    total=total +money
print ("The total money is", total)
```

```
banana
price: 4
stock: 6
apple
price: 2
stock: 0
orange
price: 1.5
stock: 32
pear
price: 3
stock: 15
24
0
48.0
45
The total money is 117.0
```