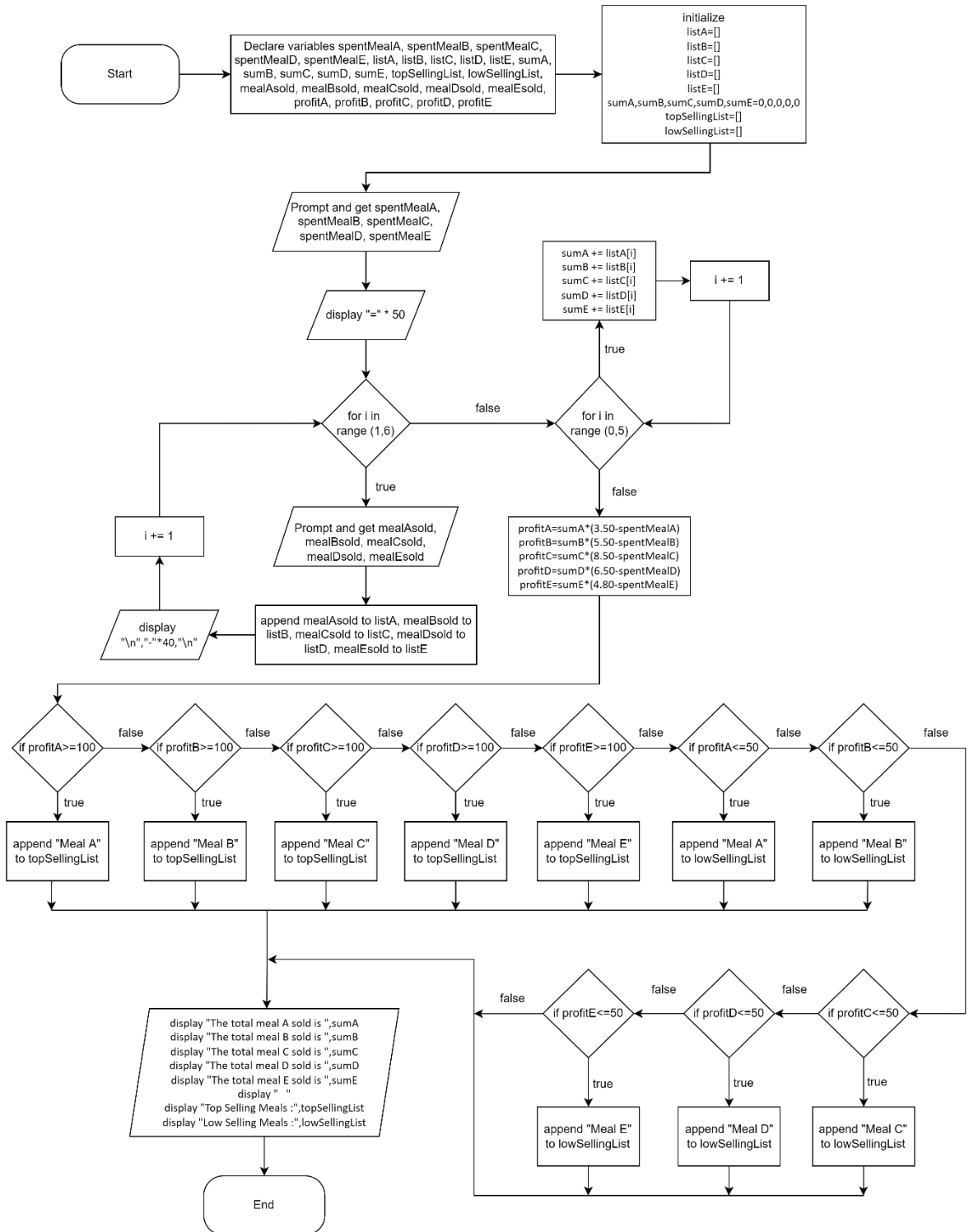


QUESTION 1 (a)

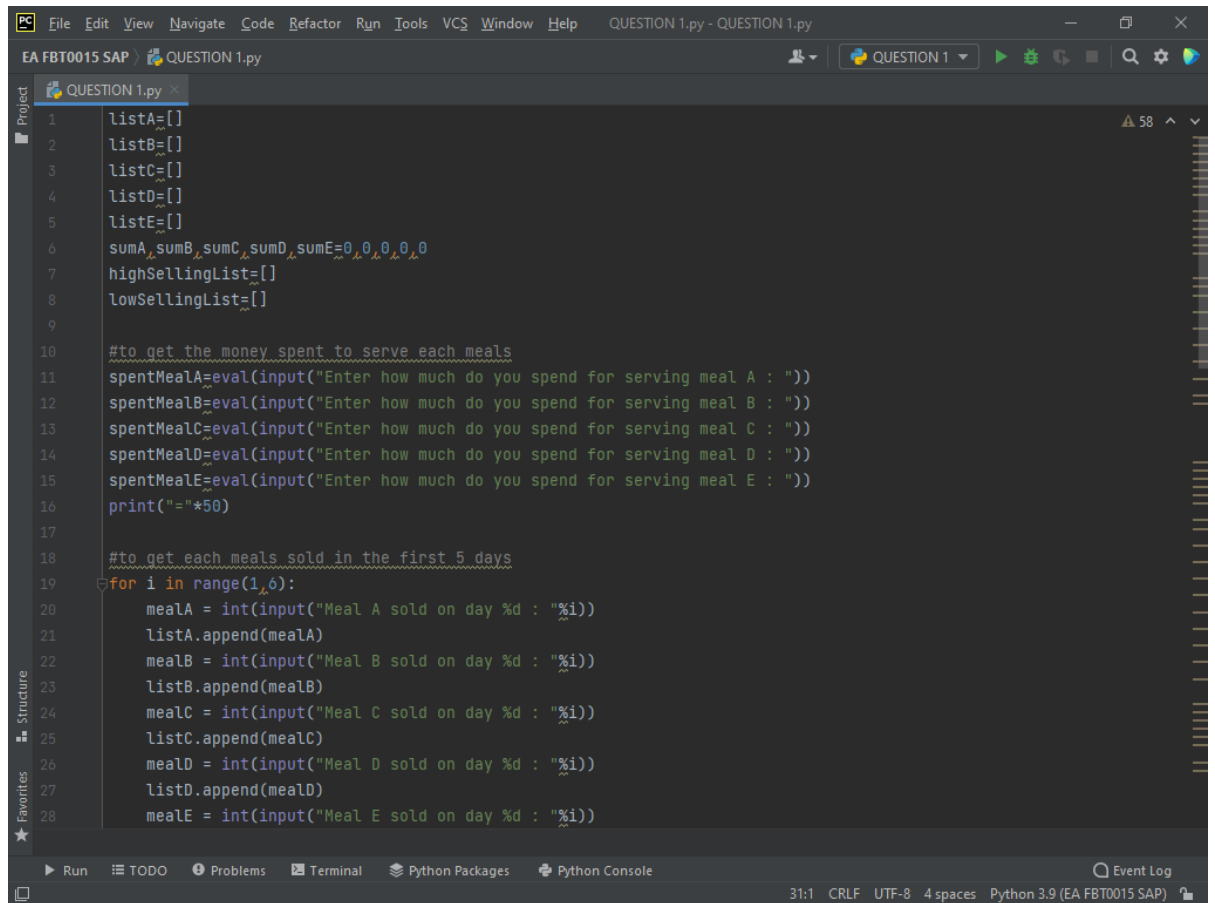
INPUT	PROCESS	OUTPUT
mealAsold mealBsold mealCsold mealDsold mealEsold spentMealA spentMealB spentMealC spentMealD spentMealA	<p>Declare variables spentMealA, spentMealB, spentMealC, spentMealD, spentMealE, listA, listB, listC, listD, listE, sumA, sumB, sumC, sumD, sumE, topSellingList, lowSellingList, mealAsold, mealBsold, mealCsold, mealDsold, mealEsold, profitA, profitB, profitC, profitD, profitE</p> <p>Initialize listA=[], listB=[], listC=[], listD=[], listE=[], sumA=0, sumB=0, sumC=0, sumD=0, sumE=0, topSellingList=[], lowSellingList=[]</p> <p>Prompt and get spentMealA, spentMealB, spentMealC, spentMealD, spentMealE</p> <p>display "="*50</p> <p>for i in range(1,6): Prompt and get mealAsold, mealBsold , mealCsold, mealDsold, mealEsold</p> <p> append mealAsold to listA, mealBsold to listB, mealCsold to listC, mealDsold to listD, mealEsold to listE</p> <p>display "\n" , "-" * 40 , "\n"</p> <p>for i in range(0,5): sumA += listA[i] sumB += listB[i] sumC += listC[i] sumD += listD[i] sumE += listE[i]</p> <p>profitA=sumA*(3.50-spentMealA) profitB=sumB*(5.50-spentMealB) profitC=sumC*(8.50-spentMealC) profitD=sumD*(6.50-spentMealD) profitE=sumE*(4.80-spentMealE)</p>	<p>"The total meal A sold is ",sumA</p> <p>"The total meal B sold is ",sumB</p> <p>"The total meal C sold is ",sumC</p> <p>"The total meal D sold is ",sumD</p> <p>"The total meal E sold is ",sumE</p> <p>"Top Selling Meals :",topSellingList</p> <p>"Low Selling Meals :",lowSellingList</p>

	<pre>if profitA>=100: append "Meal A" to topSellingList if profitB>=100: append "Meal B" to topSellingList if profitC>=100: append "Meal C" to topSellingList if profitD>=100: append "Meal D" to topSellingList if profitE>=100: append "Meal E" to topSellingList if profitA <=50: append "Meal A" to lowSellingList if profitB <=50: append "Meal B" to lowSellingList if profitC <=50: append "Meal C" to lowSellingList if profitD <=50: append "Meal D" to lowSellingList if profitE <=50: append "Meal E" to lowSellingList display "The total meal A sold is ",sumA display "The total meal B sold is ",sumB display "The total meal C sold is ",sumC display "The total meal D sold is ",sumD display "The total meal E sold is ",sumE display " " display "Top Selling Meals :",topSellingList display "Low Selling Meals :",lowSellingList</pre>	
--	--	--

QUESTION 1 (b)



QUESTION 1 (c)



The screenshot shows a PyCharm IDE window titled "QUESTION 1.py - QUESTION 1.py". The editor displays a Python script for a meal service simulation. The script initializes five lists (listA through listE) and five sum variables (sumA through sumE) to zero. It then prompts the user to enter the cost for each of five meals (A through E). After collecting the costs, it prompts the user to enter the number of days each meal was sold (1 to 5). The script then calculates the total cost for each meal by multiplying the cost by the number of days sold and appends the result to the corresponding list. Finally, it prints the total cost for each meal.

```
1 listA=[]
2 listB=[]
3 listC=[]
4 listD=[]
5 listE=[]
6 sumA,sumB,sumC,sumD,sumE=0,0,0,0,0
7 highSellingList=[]
8 lowSellingList=[]
9
10 #to get the money spent to serve each meals
11 spentMealA=eval(input("Enter how much do you spend for serving meal A : "))
12 spentMealB=eval(input("Enter how much do you spend for serving meal B : "))
13 spentMealC=eval(input("Enter how much do you spend for serving meal C : "))
14 spentMealD=eval(input("Enter how much do you spend for serving meal D : "))
15 spentMealE=eval(input("Enter how much do you spend for serving meal E : "))
16 print("#50)
17
18 #to get each meals sold in the first 5 days
19 for i in range(1,6):
20     mealA = int(input("Meal A sold on day %d : %i"))
21     listA.append(mealA)
22     mealB = int(input("Meal B sold on day %d : %i"))
23     listB.append(mealB)
24     mealC = int(input("Meal C sold on day %d : %i"))
25     listC.append(mealC)
26     mealD = int(input("Meal D sold on day %d : %i"))
27     listD.append(mealD)
28     mealE = int(input("Meal E sold on day %d : %i"))
```

The bottom status bar shows the file encoding as UTF-8, 4 spaces, and Python 3.9 (EA FBT0015 SAP).

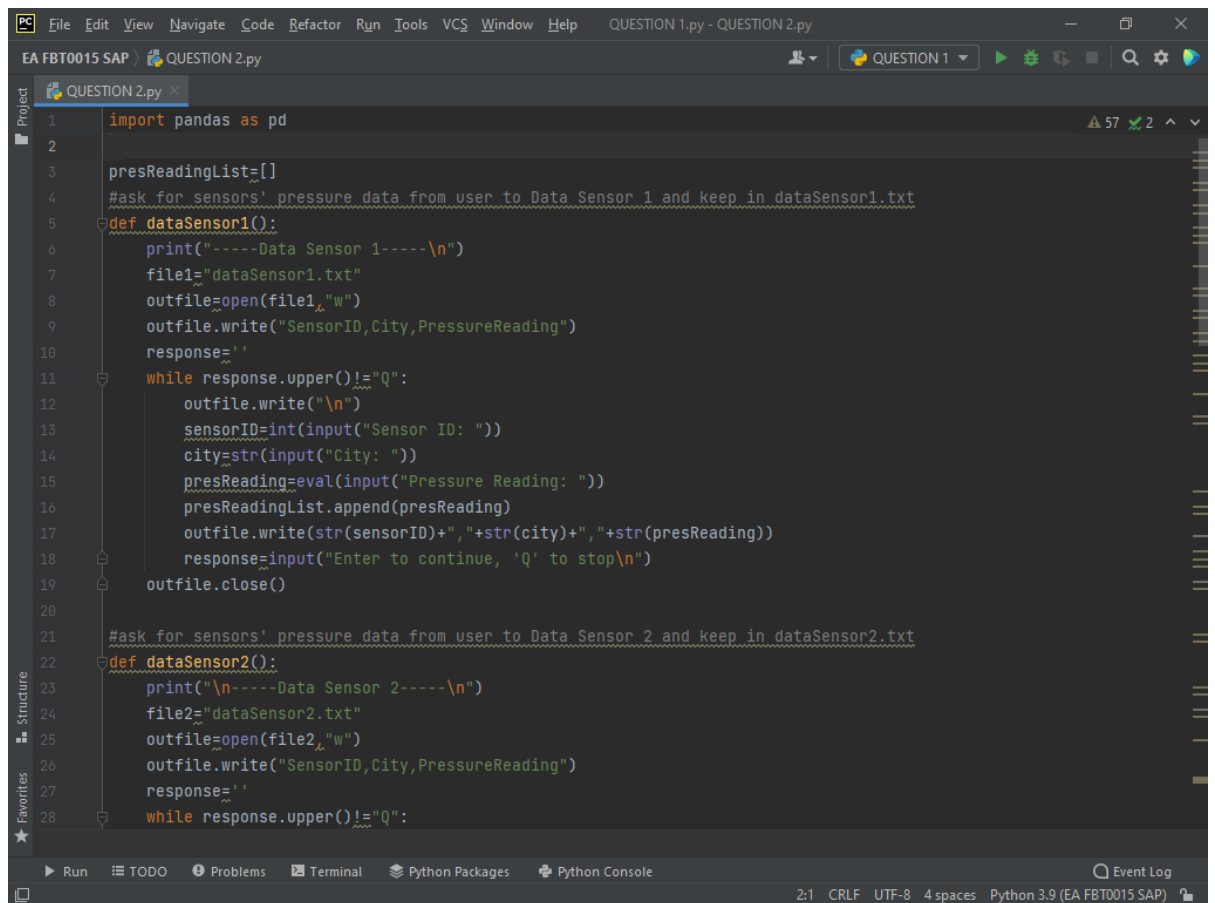
```
File Edit View Navigate Code Refactor Run Tools VCS Window Help QUESTION 1.py - QUESTION 1.py
EA FBT0015 SAP QUESTION 1.py QUESTION 1
QUESTION 1.py
28 mealE = int(input("Meal E sold on day: "))
29 listE.append(mealE)
30 print("\n" + "-" * 40 + "\n")
31
32 #to get the total of each meals sold
33 for i in range(0,5):
34     sumA += listA[i]
35     sumB += listB[i]
36     sumC += listC[i]
37     sumD += listD[i]
38     sumE += listE[i]
39
40 #to calculate the profit for each meals
41 profitA = sumA * (3.50 - spentMealA)
42 profitB = sumB * (5.50 - spentMealB)
43 profitC = sumC * (8.50 - spentMealC)
44 profitD = sumD * (6.50 - spentMealD)
45 profitE = sumE * (4.80 - spentMealE)
46
47 #to separate the meals status either top selling meals or low selling meals
48 if profitA >= 100:
49     highSellingList.append("Meal A")
50 if profitB >= 100:
51     highSellingList.append("Meal B")
52 if profitC >= 100:
53     highSellingList.append("Meal C")
54 if profitD >= 100:
55     highSellingList.append("Meal D")
56 if profitE >= 100:
57     highSellingList.append("Meal E")
58
Run TODO Problems Terminal Python Packages Python Console Event Log
78:1 CRLF UTF-8 4 spaces Python 3.9 (EA FBT0015 SAP)
```

The screenshot shows the PyCharm IDE interface. The top menu bar includes File, Edit, View, Navigate, Code, Refactor, Run, Tools, VCS, Window, and Help. The title bar indicates the current file is 'QUESTION 1.py - QUESTION 1.py'. Below the menu bar, the breadcrumb navigation shows 'EA FBT0015 SAP' and 'QUESTION 1.py'. The main editor area displays the following Python code:

```
56 if profitE >= 100:
57     highSellingList.append("Meal E")
58 if profitA <= 50:
59     lowSellingList.append("Meal A")
60 if profitB <= 50:
61     lowSellingList.append("Meal B")
62 if profitC <= 50:
63     lowSellingList.append("Meal C")
64 if profitD <= 50:
65     lowSellingList.append("Meal D")
66 if profitE <= 50:
67     lowSellingList.append("Meal E")
68
69 #dates that will be shown
70 print("The total meal A sold is %d"%sumA)
71 print("The total meal B sold is %d"%sumB)
72 print("The total meal C sold is %d"%sumC)
73 print("The total meal D sold is %d"%sumD)
74 print("The total meal E sold is %d"%sumE)
75 print()
76 print("Top Selling Meals :", highSellingList)
77 print("Low Selling Meals :", lowSellingList)
78
```

The left sidebar contains the Project, Structure, and Favorites panels. The bottom status bar shows the current cursor position at line 78, column 1, with CRLF line endings, UTF-8 encoding, 4 spaces indentation, and Python 3.9 (EA FBT0015 SAP) interpreter.

QUESTION 2



The screenshot shows a PyCharm IDE window titled "QUESTION 1.py - QUESTION 2.py". The editor displays a Python script with the following code:

```
1 import pandas as pd
2
3 presReadingList=[]
4 #ask for sensors' pressure data from user to Data Sensor 1 and keep in dataSensor1.txt
5 def dataSensor1():
6     print("----Data Sensor 1----\n")
7     file1="dataSensor1.txt"
8     outfile=open(file1,"w")
9     outfile.write("SensorID,City,PressureReading")
10    response=''
11    while response.upper()!="Q":
12        outfile.write("\n")
13        sensorID=int(input("Sensor ID: "))
14        city=str(input("City: "))
15        presReading=eval(input("Pressure Reading: "))
16        presReadingList.append(presReading)
17        outfile.write(str(sensorID)+","+str(city)+","+str(presReading))
18        response=input("Enter to continue, 'Q' to stop\n")
19    outfile.close()
20
21 #ask for sensors' pressure data from user to Data Sensor 2 and keep in dataSensor2.txt
22 def dataSensor2():
23     print("\n----Data Sensor 2----\n")
24     file2="dataSensor2.txt"
25     outfile=open(file2,"w")
26     outfile.write("SensorID,City,PressureReading")
27     response=''
28     while response.upper()!="Q":
```

The interface includes a menu bar (File, Edit, View, Navigate, Code, Refactor, Run, Tools, VCS, Window, Help), a toolbar with icons for running, debugging, and searching, and a bottom status bar showing "2:1 CRLF UTF-8 4 spaces Python 3.9 (EA FBT0015 SAP)".

```
File Edit View Navigate Code Refactor Run Tools VCS Window Help QUESTION 1.py - QUESTION 2.py
EA FBT0015 SAP QUESTION 2.py QUESTION 1
QUESTION 2.py x
29 outfile.write("\n")
30 sensorID=int(input("Sensor ID: "))
31 city=str(input("City: "))
32 presReading=eval(input("Pressure Reading: "))
33 presReadingList.append(presReading)
34 outfile.write(str(sensorID)+" "+str(city)+" "+str(presReading))
35 response=input("Enter to continue, 'Q' to stop\n")
36 outfile.close()
37
38 #to display and combine the data from both textfiles
39 def retrieveSensorsRecord():
40     print("="*40)
41     print("----Data Sensor 1 Pandas DataFrame----\n")
42     df1 = pd.read_csv("dataSensor1.txt", sep=",")
43     print(df1.to_string())
44     print("="*40)
45     print("----Data Sensor 2 Pandas DataFrame----\n")
46     df2 = pd.read_csv("dataSensor2.txt", sep=",")
47     print(df2.to_string())
48     concatDataSensorsAndOthers(df1,df2) #function call
49
50 #function to combine textfiles
51 def concatDataSensorsAndOthers(df1,df2):
52     print("="*40)
53     print("-----Concatenated Pandas DataFrame-----\n")
54     df3=pd.concat([df1,df2],ignore_index=True,axis=0)
55     print(df3)
56     highest(df3) #function call
dataSensor2() while response.upper()!="Q"
Run TODO Problems Terminal Python Packages Python Console Event Log
32:5 CRLF UTF-8 4 spaces Python 3.9 (EA FBT0015 SAP)
```


QUESTION 1.py - QUESTION 2.py

EA FBT0015 SAPQUESTION 2.py

QUESTION 2.py

57lowest(df3) #function call
58average(df3) #function call
59
60#function to select highest reading
61def highest(df4):
62 print("="*40)
63 print("Highest Reading Details:\n")
64 select_highest = df4.max()
65 print(select_highest)
66
67#function to select lowest reading
68def lowest(df5):
69 print("="*30)
70 print("Lowest Reading Details:\n")
71 select_lowest = df5.min()
72 print(select_lowest)
73
74#function to calculate average pressure reading
75def average(df6):
76 print("="*40)
77 average=(sum(presReadingList))/len(presReadingList)
78 print("Average pressure reading: %.3f psi"%average)
79
80
81#main program
82dataSensor1()
83dataSensor2()
84retrieveSensorsRecord()

Run | TODO | Problems | Terminal | Python Packages | Python Console | Event Log

2:1 CRLF UTF-8 4 spaces Python 3.9 (EA FBT0015 SAP)