1. Write an algorithm (not a program) to sort any list. You can use any popular algorithm

Bubblesort:

```
for i = 1:n,
    swapped = false
    for j = n:i+1,
        if a[j] < a[j-1],
            swap a[j,j-1]
            swapped = true
    → invariant: a[1..i] in final position
    break if not swapped
end
```

2. Programming Assignment

a. Create a static list of 15 names and scores (at least three)

b. Allow the user to enter a target name

c. Search the list for the target name

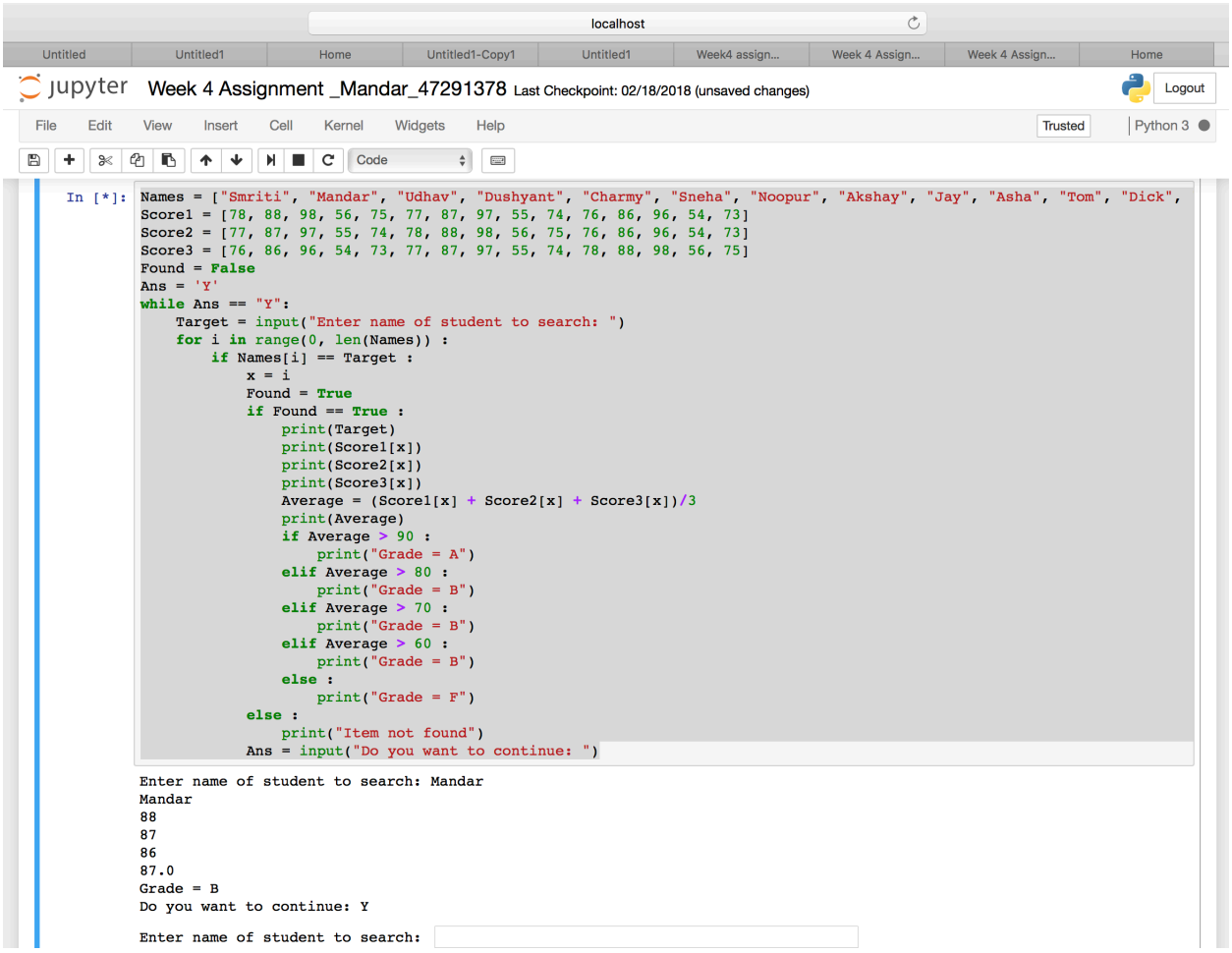
d. If not found, print "NOT FOUND"

e. If the name is found, print the name and associated scores, average and letter grade.

Program:

```
Names = ["Smriti", "Mandar", "Udhav", "Dushyant", "Charmy", "Sneha", "Noopur", "Akshay",
"Jay", "Asha", "Tom", "Dick", "Harry", "Jerry", "Mini"]
Score1 = [78, 88, 98, 56, 75, 77, 87, 97, 55, 74, 76, 86, 96, 54, 73]
Score2 = [77, 87, 97, 55, 74, 78, 88, 98, 56, 75, 76, 86, 96, 54, 73]
Score3 = [76, 86, 96, 54, 73, 77, 87, 97, 55, 74, 78, 88, 98, 56, 75]
Found = False
Ans = 'Y'
while Ans == "Y":
   Target = input("Enter name of student to search: ")
   for i in range(0, len(Names)) :
      if Names[i] == Target :
         x = i
         Found = True
         if Found == True :
            print(Target)
            print(Score1[x])
            print(Score2[x])
            print(Score3[x])
            Average = (Score1[x] + Score2[x] + Score3[x])/3
            print(Average)
            if Average > 90 :
               print("Grade = A")
            elif Average > 80 :
               print("Grade = B")
            elif Average > 70 :
               print("Grade = B")
            elif Average > 60 :
               print("Grade = B")
            else :
               print("Grade = F")
         else :
            print("Item not found")
         Ans = input("Do you want to continue: ")
```

Screenshot:


localhost
Untitled
Untitled1
Home
Untitled1-Copy1
Untitled1
Week4 assign...
Week 4 Assign...
Week 4 Assign...
Home
jupyter
Week 4 Assignment _Mandar_47291378
Last Checkpoint: 02/18/2018 (unsaved changes)
Logout
File
Edit
View
Insert
Cell
Kernel
Widgets
Help
Trusted
Python 3
Code
In [*]:
Names = ["Smriti", "Mandar", "Udhav", "Dushyant", "Charmy", "Sneha", "Noopur", "Akshay", "Jay", "Asha", "Tom", "Dick",
Score1 = [78, 88, 98, 56, 75, 77, 87, 97, 55, 74, 76, 86, 96, 54, 73]
Score2 = [77, 87, 97, 55, 74, 78, 88, 98, 56, 75, 76, 86, 96, 54, 73]
Score3 = [76, 86, 96, 54, 73, 77, 87, 97, 55, 74, 78, 88, 98, 56, 75]
Found = False
Ans = 'Y'
while Ans == "Y":
Target = input("Enter name of student to search: ")
for i in range(0, len(Names)) :
if Names[i] == Target :
x = i
Found = True
if Found == True :
print(Target)
print(Score1[x])
print(Score2[x])
print(Score3[x])
Average = (Score1[x] + Score2[x] + Score3[x])/3
print(Average)
if Average > 90 :
print("Grade = A")
elif Average > 80 :
print("Grade = B")
elif Average > 70 :
print("Grade = B")
elif Average > 60 :
print("Grade = B")
else :
print("Grade = F")
else :
print("Item not found")
Ans = input("Do you want to continue: ")
Enter name of student to search: Mandar
Mandar
88
87
86
87.0
Grade = B
Do you want to continue: Y
Enter name of student to search: