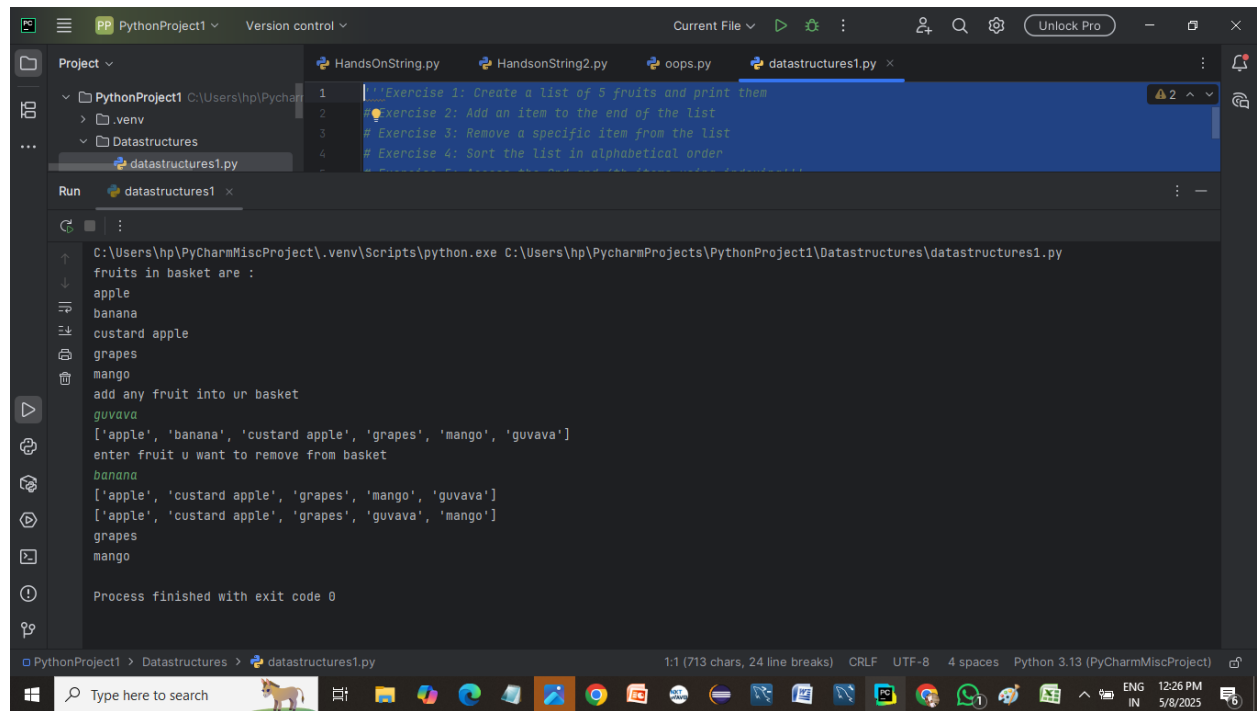# Hands-on_DataStructures

```python
'''Exercise 1: Create a list of 5 fruits and print them
# Exercise 2: Add an item to the end of the list
# Exercise 3: Remove a specific item from the list
# Exercise 4: Sort the list in alphabetical order
# Exercise 5: Access the 2nd and 4th items using indexing'''

#exer1
list_fruits=['apple','banana','custard apple',"grapes","mango"]
print("fruits in basket are :")
for i in list_fruits:
    print(i)
#exer2
newMem=input("add any fruit into ur basket\n")
list_fruits.append(newMem)
print(list_fruits)
#exer3
remMem=input("enter fruit u want to remove from basket\n")
list_fruits.remove(remMem)
print(list_fruits)
#exer4
list_fruits.sort()
print(list_fruits)
#exer5
print(list_fruits[2])
print(list_fruits[4])
```

Output)

```
'''Exercise 6: Create a tuple with 3 numbers and print it
# Exercise 7: Try changing an item in a tuple (expect an error)
# Exercise 8: Unpack a tuple into 3 variables
# Exercise 9: Convert a tuple to a list and modify an item'''

#exer6
tup_1=(1,2,4)
print("numbers in tuple are:")
for i in tup_1:
    print(i)
#exer7
# tup_1[2]=3        //this part of code throws
# print(tup_1)      //error
#exer8
print("printing values by unoacking tuple:")
a,b,c=tup_1
print(a)
print(b)
print(c)
#exer9
print("Converting a tuple to a list and modify an item")
list_1=list(tup_1)
list_1[2]=3
print(list_1)
```

Output)

```python
'''Exercise 10: Create a set of numbers with duplicates and print it (observe
how duplicates are removed)
# Exercise 11: Add a new element to the set
# Exercise 12: Remove an element (use discard to avoid errors)
# Exercise 13: Find the union and intersection of two sets'''
#exer10
print("values in set after deleting duplicates")
set_1={1,2,3,4,5,5,4,3,2,1,6,7,8,9,12,0}
print(set_1)
#exer11
print("adding a nuw element into set_1 and printing")
set_1.add(14)
print(set_1)
#exer12
print("Removeing an element 0 useing discard to avoid errors")
set_1.discard(0)
print(set_1)
#exer13
set_2={1,2,3,3,4,5,6,9,67,19,77}
print("union of set1 and set 2")
print(set_1.union(set_2))
print("intersection of set1 and set 2")
print(set_1.intersection(set_2))
```

Output

```python
'''Exercise 14: Create a dictionary with keys: name, age, city
# Exercise 15: Access and print the value of 'city'
# Exercise 16: Add a new key 'email' to the dictionary
# Exercise 17: Update the age to a new value
# Exercise 18: Delete the 'city' key from the dictionar'''

#exer14
details={"name":"abhijithsai","age":23,"city":"Hyderabad"}
print(details)
#exer15
print("Access and printing the value of 'city'")
print(details["city"])
#exer16
print("Adding a new key 'email' to the dictionary")
details["email"]="abhijith963@gmail.com"
print(details)
#exer17
print("Updating the age to a new value")
details["age"]=18
print(details)
#exer18
print("Deleting the 'city' key from the dictionary")
del details["city"]
print(details)
```

Output