Assignment - 01
(Python for data science)

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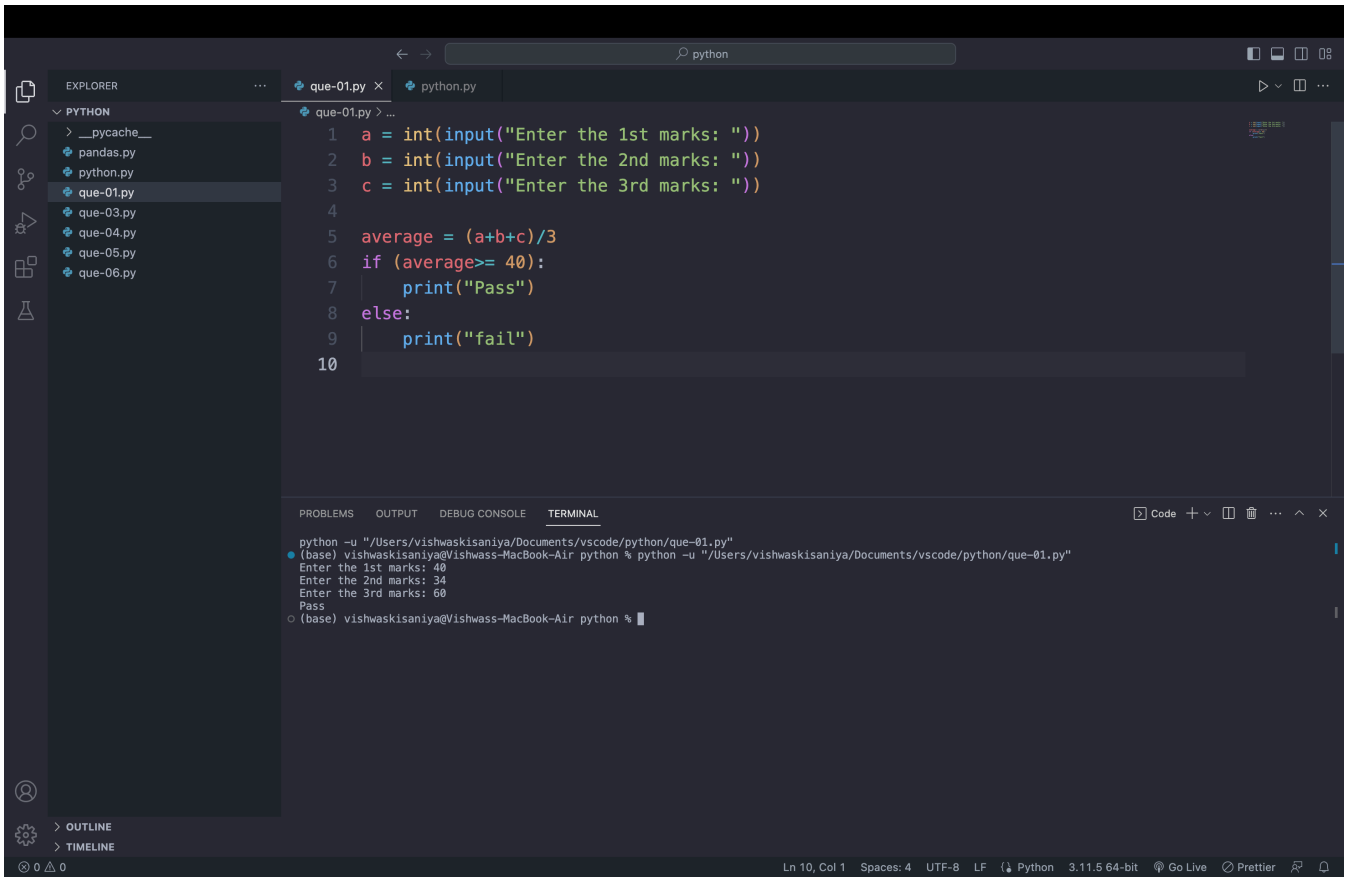
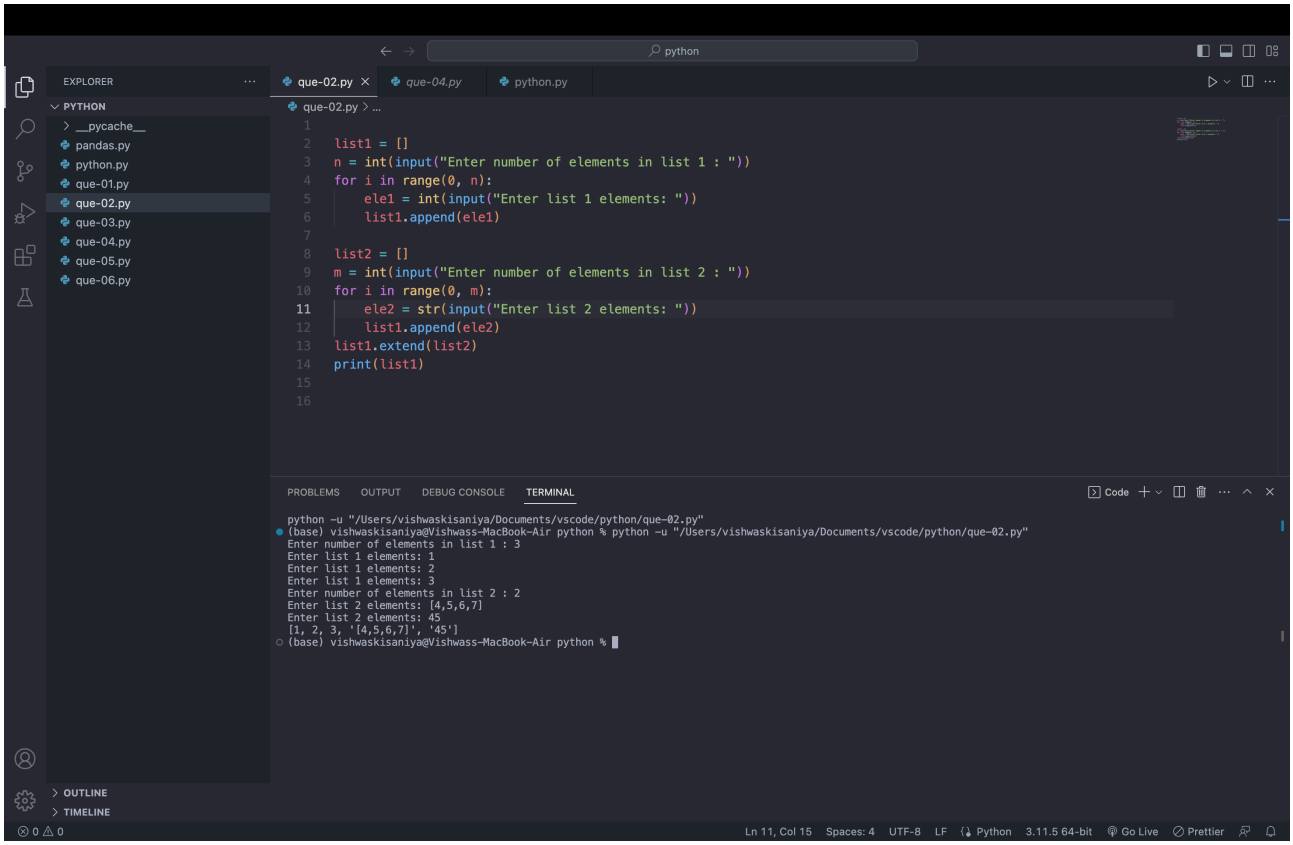
CSE(DS)

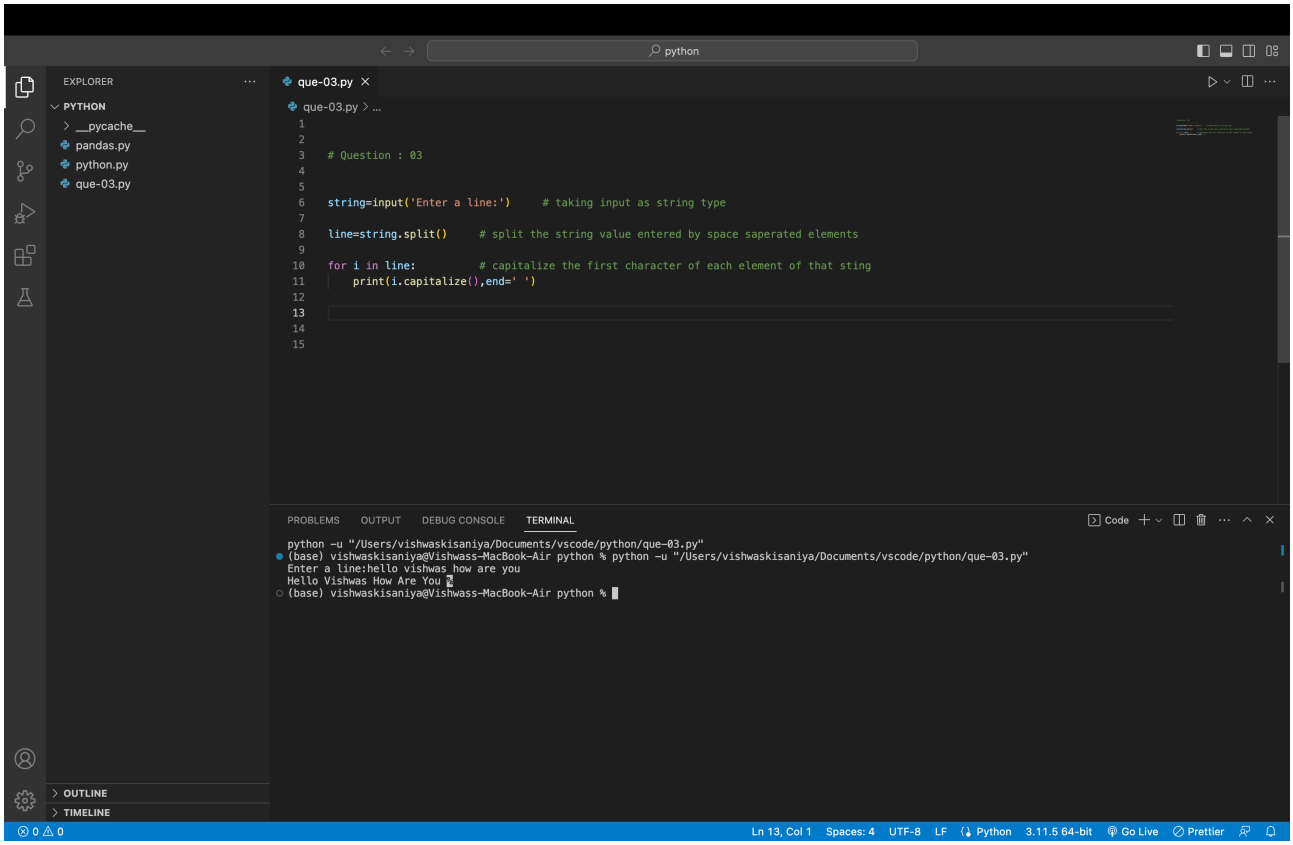
Question: 01



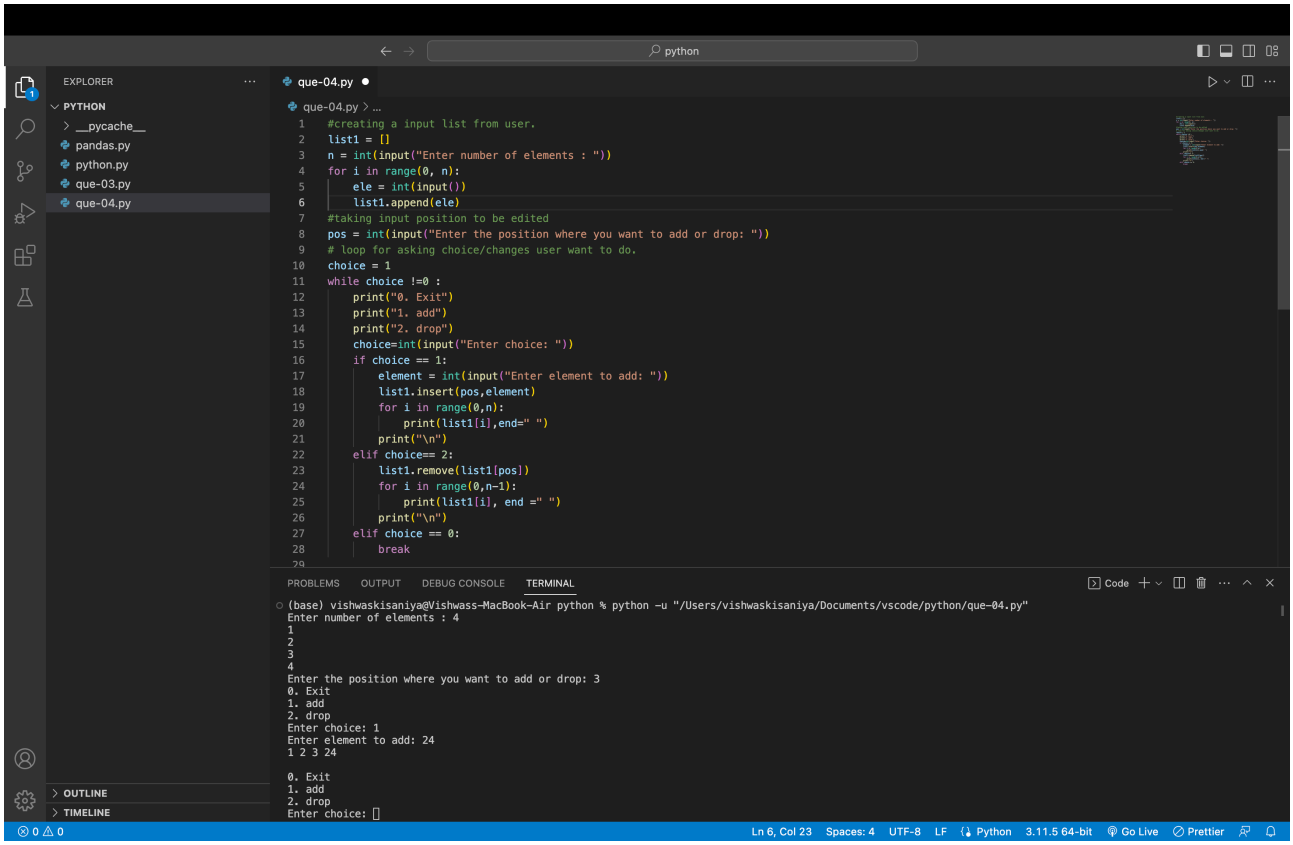
Question: 02



Question: 03



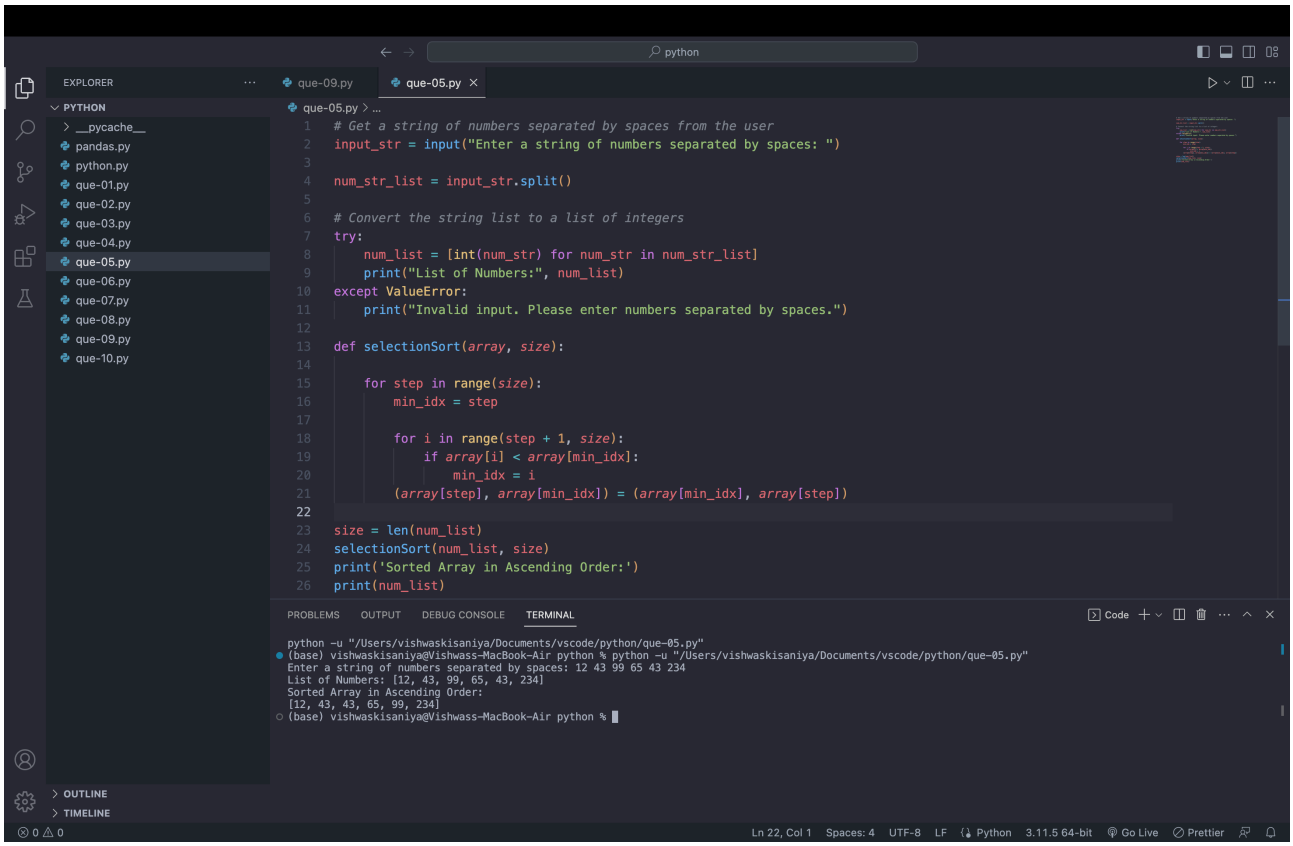
Question: 04



```python
#creating a input list from user.
list1 = []
n = int(input("Enter number of elements : "))
for i in range(0, n):
    ele = int(input())
    list1.append(ele)
#taking input position to be edited
pos = int(input("Enter the position where you want to add or drop: "))
# loop for asking choice/changes user want to do.
choice = 1
while choice !=0 :
    print("0. Exit")
    print("1. add")
    print("2. drop")
    choice=int(input("Enter choice: "))
    if choice == 1:
        element = int(input("Enter element to add: "))
        list1.insert(pos,element)
        for i in range(0,n):
            print(list1[i],end=" ")
        print("\n")
    elif choice== 2:
        list1.remove(list1[pos])
        for i in range(0,n-1):
            print(list1[i], end =" ")
        print("\n")
    elif choice == 0:
        break
```

```
(base) vishwaskisaniya@Vishwass-MacBook-Air python % python -u "/Users/vishwaskisaniya/Documents/vscode/python/que-04.py"
Enter number of elements : 4
1
2
3
4
Enter the position where you want to add or drop: 3
0. Exit
1. add
2. drop
Enter choice: 1
Enter element to add: 24
1 2 3 24

0. Exit
1. add
2. drop
Enter choice:
```

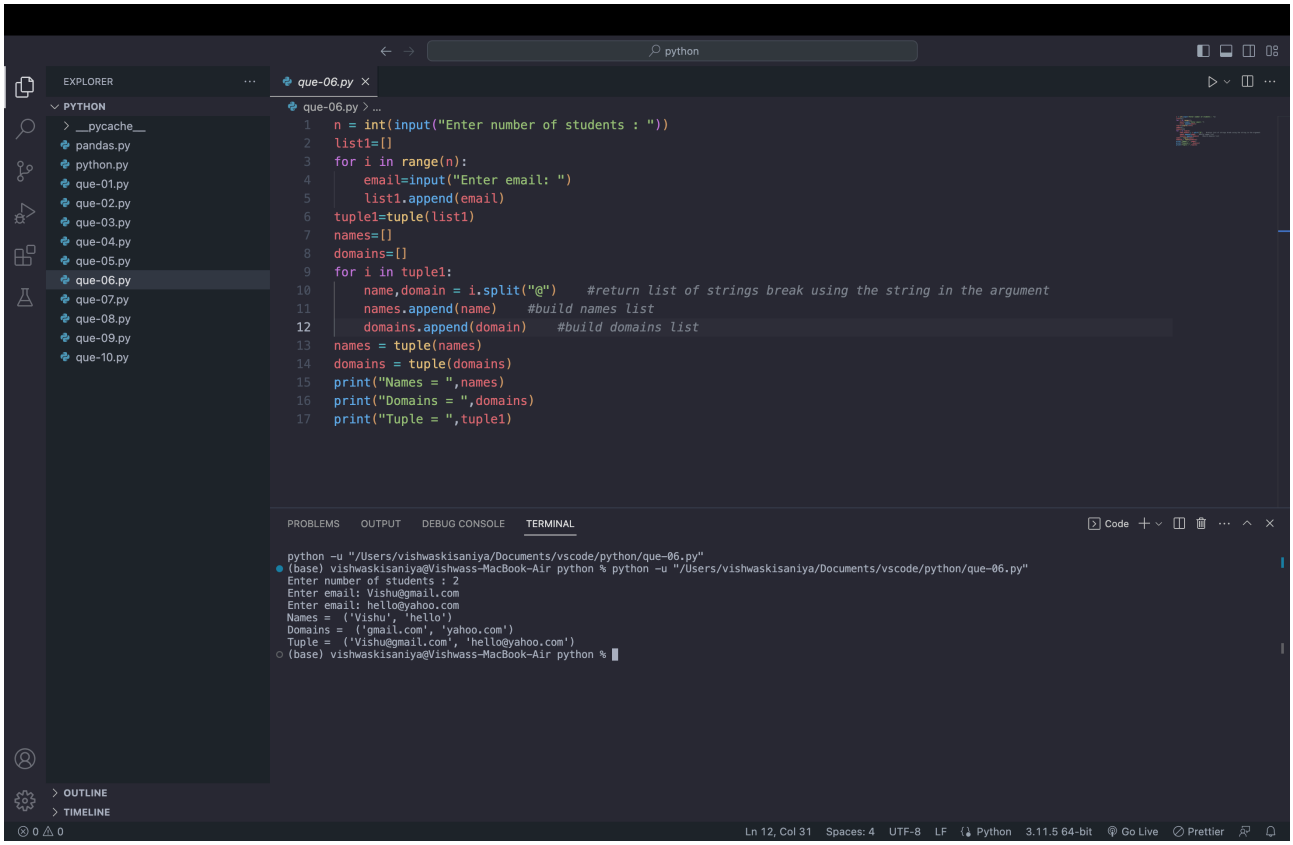
Question: 05



```python
# Get a string of numbers separated by spaces from the user
input_str = input("Enter a string of numbers separated by spaces: ")

num_str_list = input_str.split()

# Convert the string list to a list of integers
try:
    num_list = [int(num_str) for num_str in num_str_list]
    print("List of Numbers:", num_list)
except ValueError:
    print("Invalid input. Please enter numbers separated by spaces.")

def selectionSort(array, size):

    for step in range(size):
        min_idx = step

        for i in range(step + 1, size):
            if array[i] < array[min_idx]:
                min_idx = i
        (array[step], array[min_idx]) = (array[min_idx], array[step])

size = len(num_list)
selectionSort(num_list, size)
print('Sorted Array in Ascending Order:')
print(num_list)
```

```
python -u "/Users/vishwaskisaniya/Documents/vscode/python/que-05.py"
(base) vishwaskisaniya@Vishwass-MacBook-Air python % python -u "/Users/vishwaskisaniya/Documents/vscode/python/que-05.py"
Enter a string of numbers separated by spaces: 12 43 99 65 43 234
List of Numbers: [12, 43, 99, 65, 43, 234]
Sorted Array in Ascending Order:
[12, 43, 43, 65, 99, 234]
(base) vishwaskisaniya@Vishwass-MacBook-Air python %
```

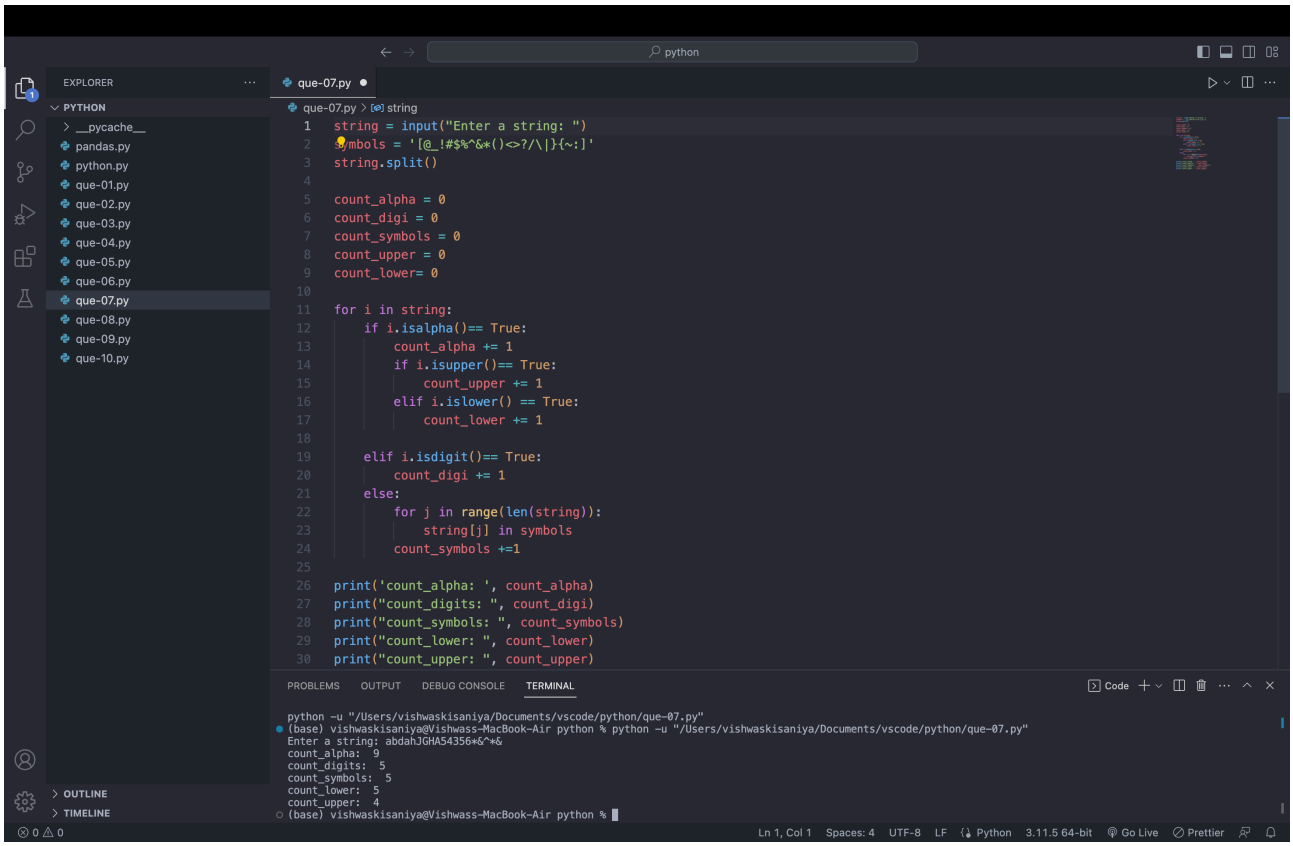
Question: 06



```
n = int(input("Enter number of students : "))
list1=[]
for i in range(n):
    email=input("Enter email: ")
    list1.append(email)
tuple1=tuple(list1)
names=[]
domains=[]
for i in tuple1:
    name,domain = i.split("@")    #return list of strings break using the string in the argument
    names.append(name)    #build names list
    domains.append(domain)    #build domains list
names = tuple(names)
domains = tuple(domains)
print("Names = ",names)
print("Domains = ",domains)
print("Tuple = ",tuple1)
```

```
python -u "/Users/vishwaskisaniya/Documents/vscode/python/que-06.py"
(base) vishwaskisaniya@Vishwass-MacBook-Air python % python -u "/Users/vishwaskisaniya/Documents/vscode/python/que-06.py"
Enter number of students : 2
Enter email: Vishu@gmail.com
Enter email: hello@yahoo.com
Names =  ('Vishu', 'hello')
Domains =  ('gmail.com', 'yahoo.com')
Tuple =  ('Vishu@gmail.com', 'hello@yahoo.com')
(base) vishwaskisaniya@Vishwass-MacBook-Air python %
```

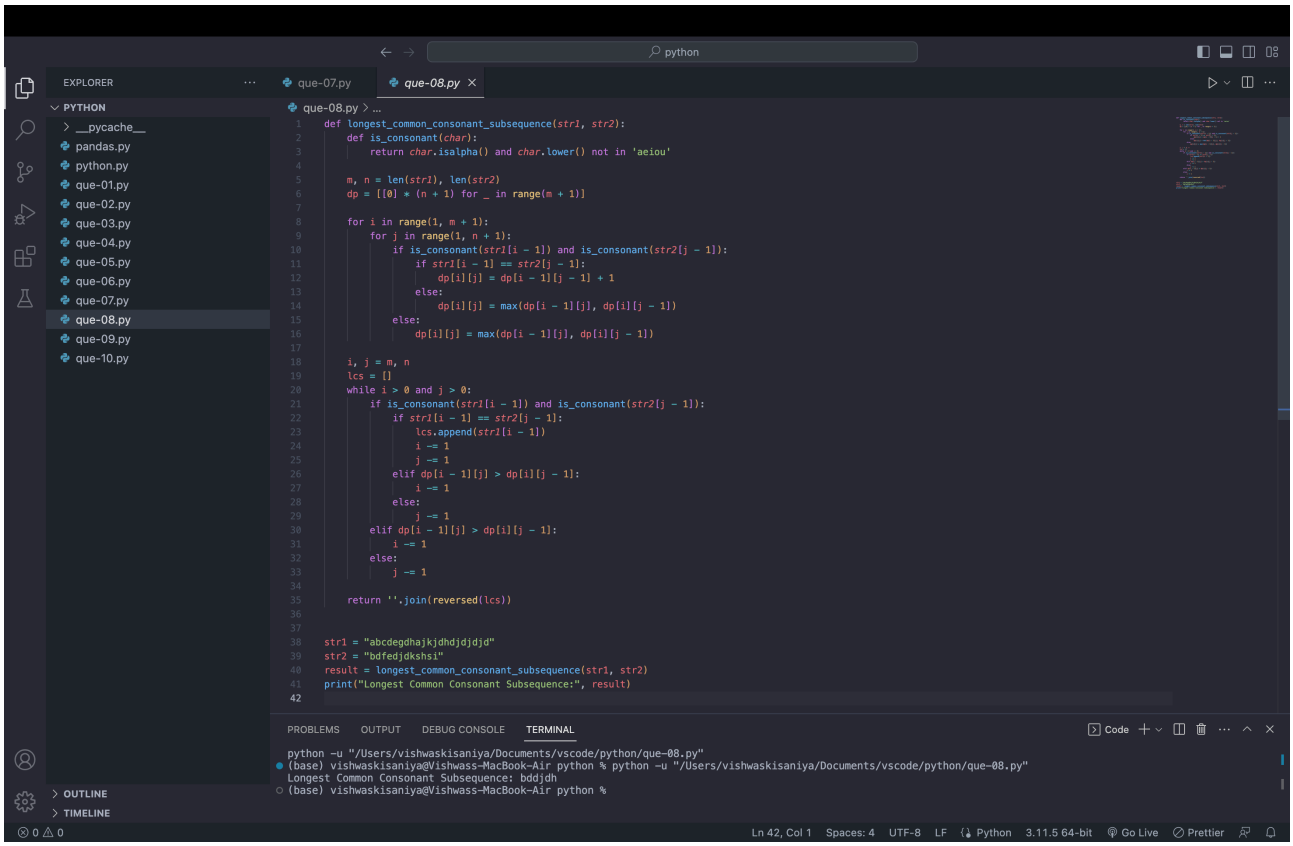
Question: 07



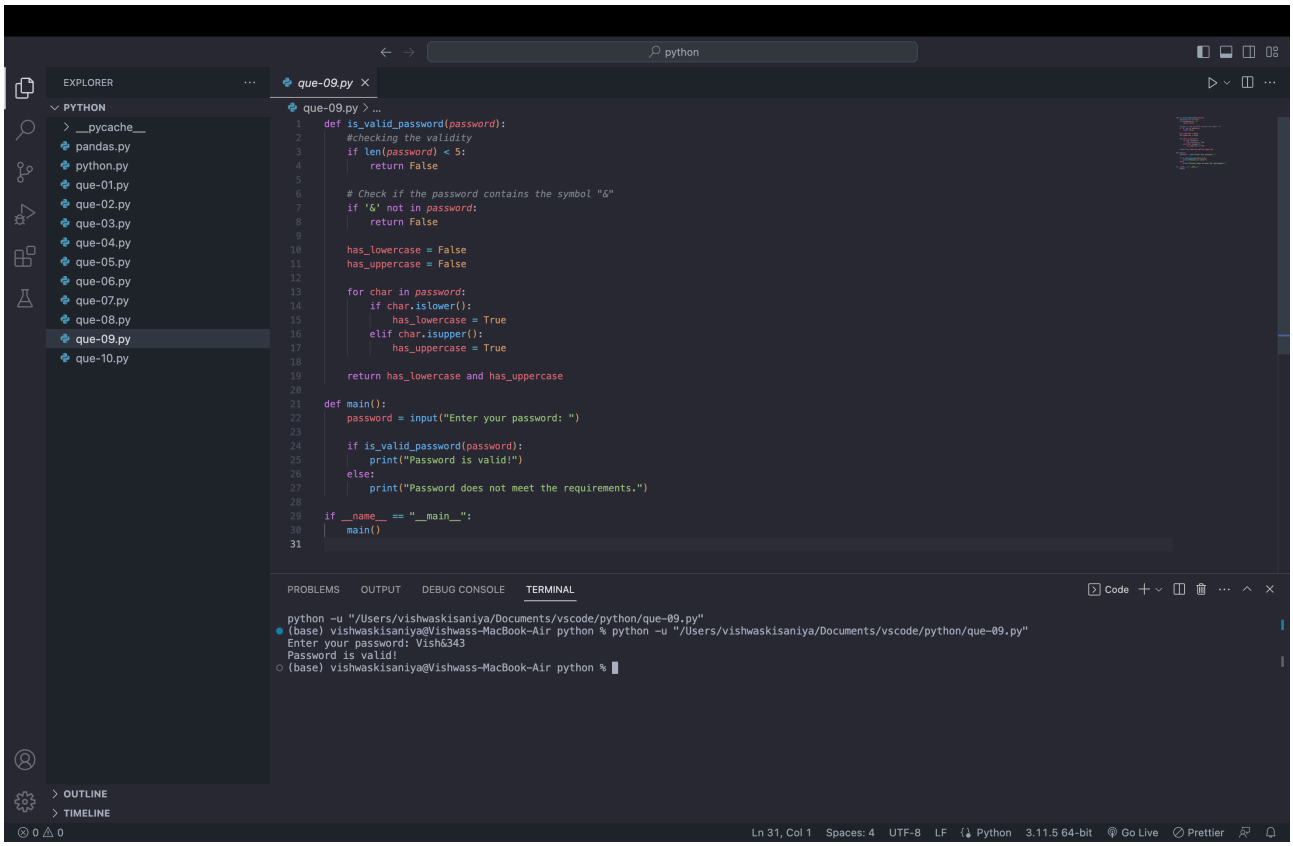
```
string = input("Enter a string: ")
symbols = '[@_!#$%^&*()<>?/\|}{~:]'
string.split()

count_alpha = 0
count_digi = 0
count_symbols = 0
count_upper = 0
count_lower= 0

for i in string:
    if i.isalpha()== True:
        count_alpha += 1
        if i.isupper()== True:
            count_upper += 1
        elif i.islower() == True:
            count_lower += 1

    elif i.isdigit()== True:
        count_digi += 1
    else:
        for j in range(len(string)):
            string[j] in symbols
        count_symbols +=1

print('count_alpha: ', count_alpha)
print("count_digits: ", count_digi)
print("count_symbols: ", count_symbols)
print("count_lower: ", count_lower)
print("count_upper: ", count_upper)
```

```
python -u "/Users/vishwaskisaniya/Documents/vscode/python/que-07.py"
(base) vishwaskisaniya@Vishwass-MacBook-Air python % python -u "/Users/vishwaskisaniya/Documents/vscode/python/que-07.py"
Enter a string: abdahJGHA54356*&^*&
count_alpha:  9
count_digits:  5
count_symbols:  5
count_lower:  5
count_upper:  4
(base) vishwaskisaniya@Vishwass-MacBook-Air python %
```

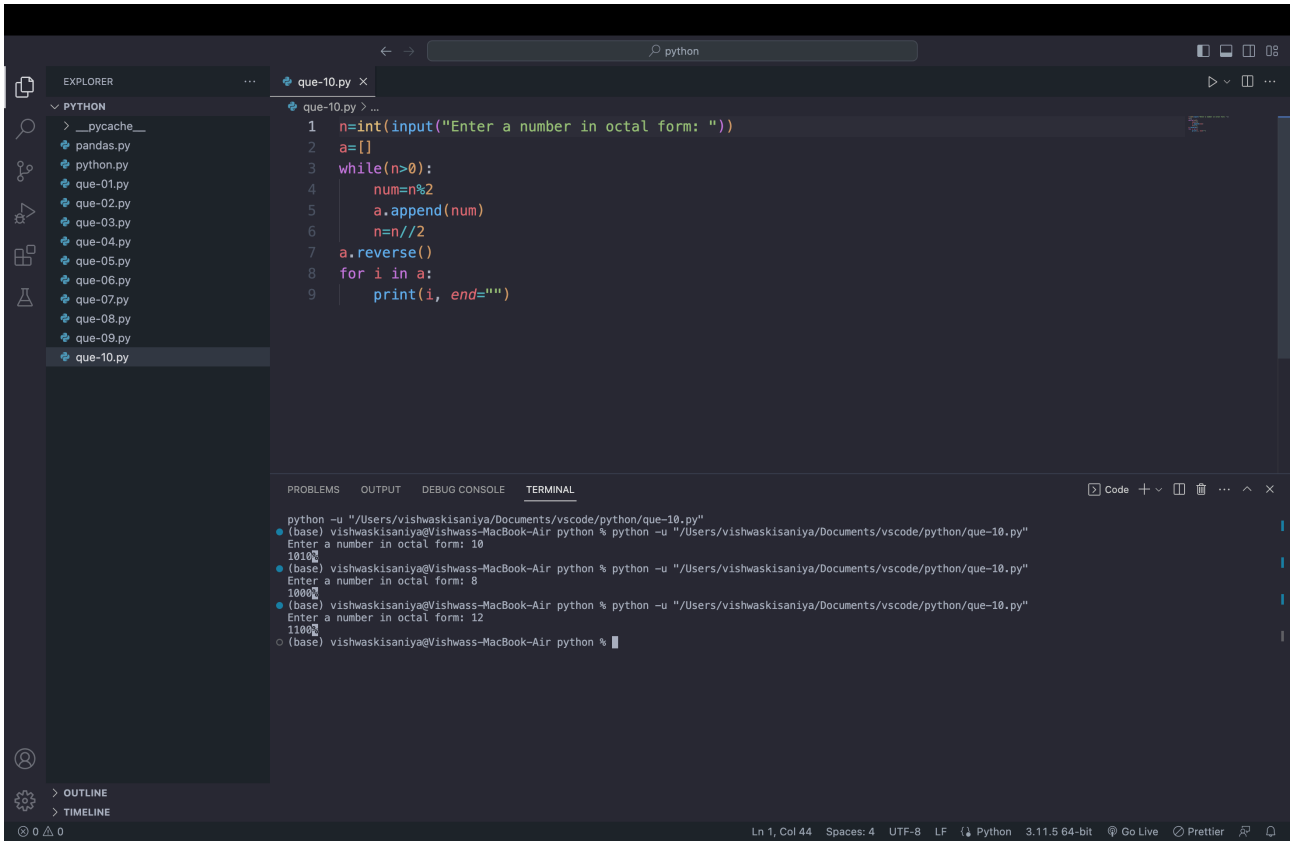
Question: 08



Question: 09



Question: 10


python
EXPLORER
PYTHON
__pycache__
pandas.py
python.py
que-01.py
que-02.py
que-03.py
que-04.py
que-05.py
que-06.py
que-07.py
que-08.py
que-09.py
que-10.py
que-10.py
que-10.py > ...
1 n=int(input("Enter a number in octal form: "))
2 a=[]
3 while(n>0):
4 num=n%2
5 a.append(num)
6 n=n//2
7 a.reverse()
8 for i in a:
9 print(i, end="")
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
Code
python -u "/Users/vishwaskisaniya/Documents/vscode/python/que-10.py"
(base) vishwaskisaniya@Vishwass-MacBook-Air python % python -u "/Users/vishwaskisaniya/Documents/vscode/python/que-10.py"
Enter a number in octal form: 10
1010
(base) vishwaskisaniya@Vishwass-MacBook-Air python % python -u "/Users/vishwaskisaniya/Documents/vscode/python/que-10.py"
Enter a number in octal form: 8
1000
(base) vishwaskisaniya@Vishwass-MacBook-Air python % python -u "/Users/vishwaskisaniya/Documents/vscode/python/que-10.py"
Enter a number in octal form: 12
1100
(base) vishwaskisaniya@Vishwass-MacBook-Air python %
OUTLINE
TIMELINE
Ln 1, Col 44
Spaces: 4
UTF-8
LF
Python
3.11.5 64-bit
Go Live
Prettier