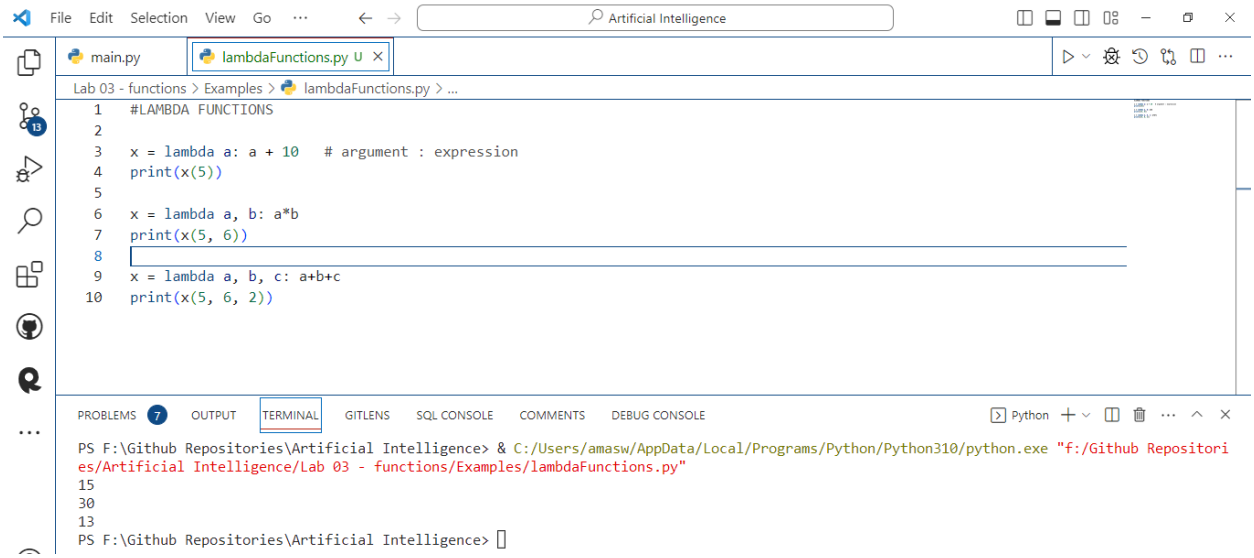
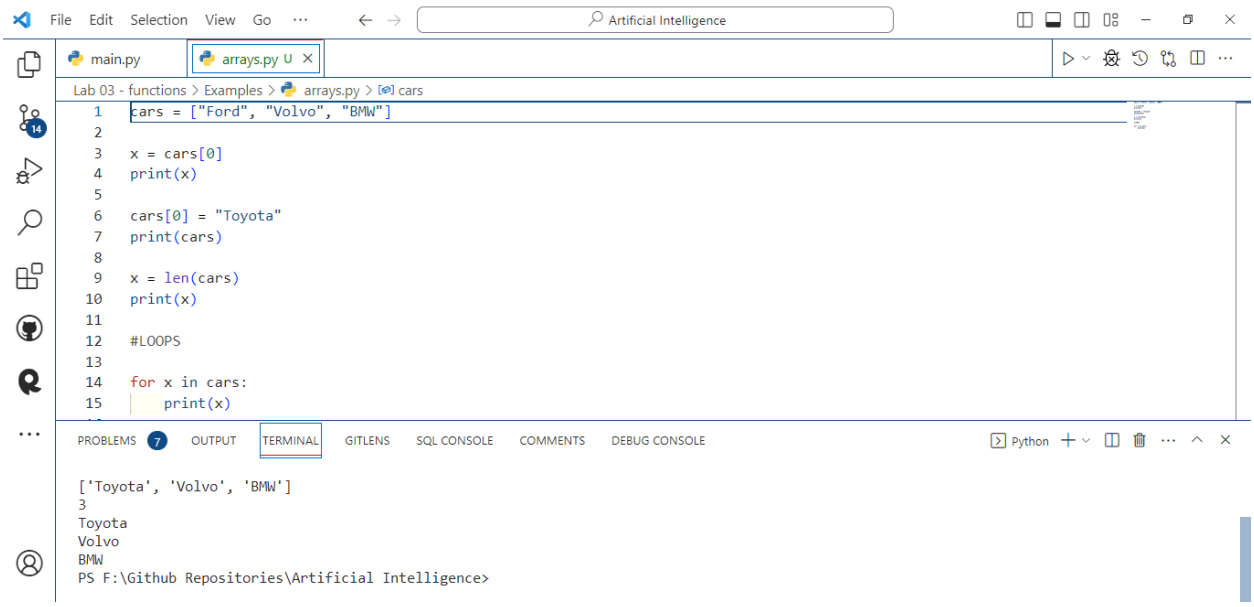
LAB 03

Examples:

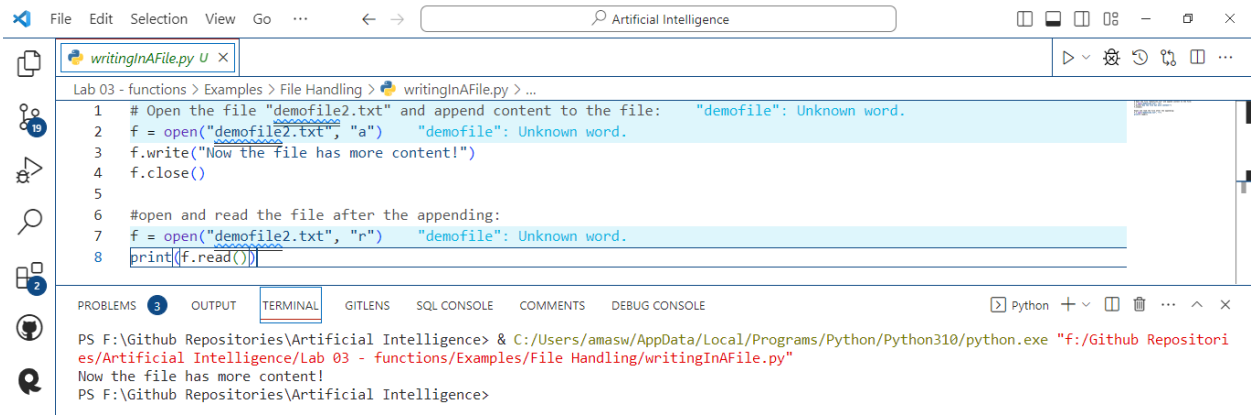
Lambda Functions

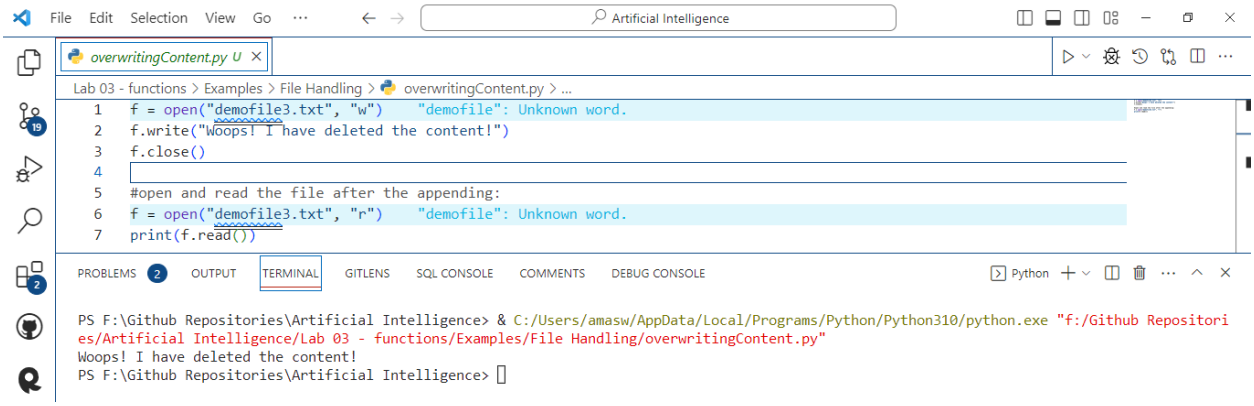


Arrays:

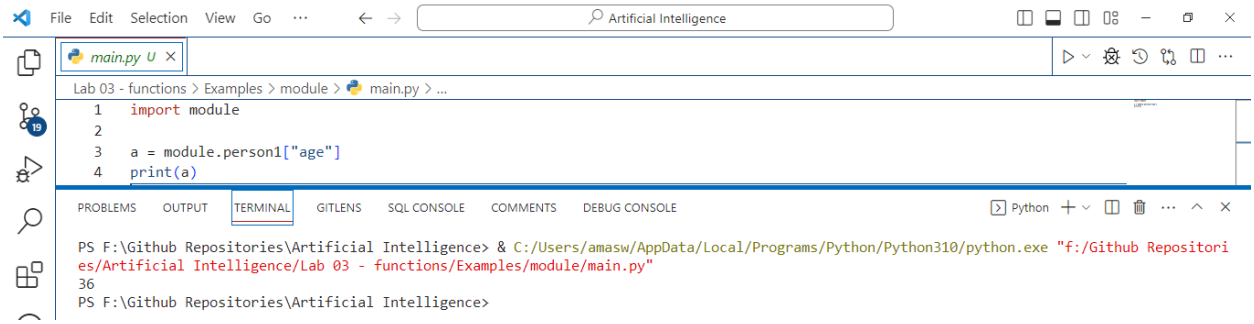


File Handling:





Module:



Exercise 01:

```
# (i). a Python program to square and cube every number in a given list of integers using Lambda.

arr = [ 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 ]
square = lambda x: x**2
cube = lambda x: x**3
print('Array: ',arr )
print('Squared Array: ',list(map(square, arr)))
print('Cubed Array: ',list(map(cube, arr)))

# (ii). a Python program to find if a given string starts with a given character using Lambda.

str = input('Enter a string: ')
startVar = input('Enter a character to check if the string starts with it: ')
start = lambda x: x.startswith(startVar)
if start(str) == True:
    print(f"{str} starts with {startVar}")
else:
    print(f"{str} does not start with {startVar}")


# (iii). a Python program to extract year, month, date and time using Lambda.

import datetime
currentDateTime =  datetime.datetime.now()
year = lambda x: x.year
month = lambda x: x.month
day = lambda x: x.day
time = lambda x: x.time()
print('Year - ',year(currentDateTime))
print('Month - ',month(currentDateTime))
print('Day - ',day(currentDateTime))
print('Time - ',time(currentDateTime))
```

Exercise 02:

 # (i). You have collected information about cities in your province. You decide to store each city's name, population, and mayor in a file. Write a python program to accept the data for a number of cities from the keyboard and store the data in a file in the order in which they're entered.

```
# opening a file
with open("cityData.txt", "w") as f:

    # getting the number of cities
    citiesNum = int(input("Enter umber of cities: "))

    # looping through the number of cities
    for i in range(citiesNum):
        cityName = input("Enter city name: ")
        cityPopulation = input("Enter city population: ")
        cityMayor = input("Enter city mayor: ")

        # Writing the message to the file
        f.write(f"City Name: {cityName} City Population: {cityPopulation} City
Mayor: {cityMayor} \n")
```

 # (ii). Write a python program to create a data file student.txt and append the message "Now we are AI students's

```
# opening a file
with open("student.txt", "a") as f:

    # Writing the message to the file
    f.write("Now we are AI students")
```