Name: Harshbhai Solanki
Roll-No: 62
Div: SE-4-D

Page No.
Date

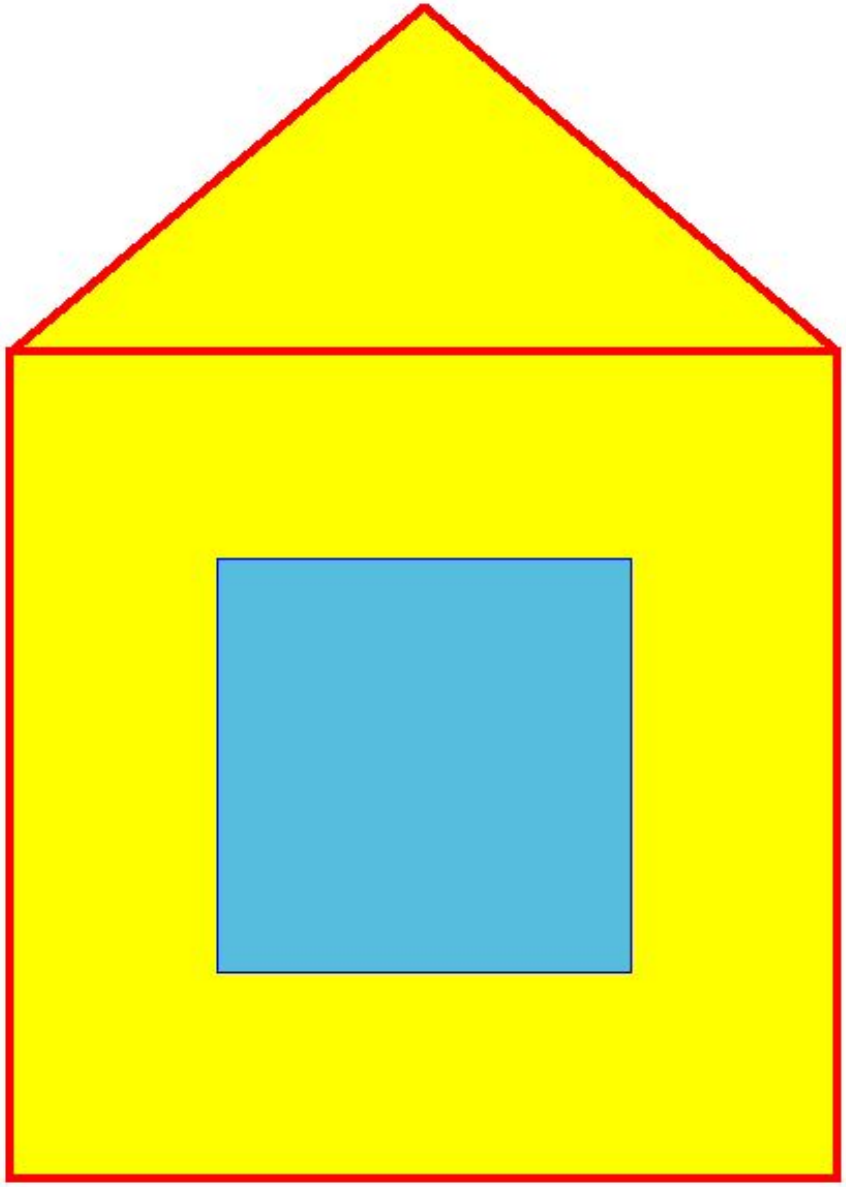
Assignment-2

Q.1 write a Python Program to display the following drawing

Solution

```
From tkinter import *
win = TK()
win.geometry("800x1000")
canvas. Canvas (win, bg = "white", heigh = 800, width = 1000)
canvas. Place (x = 0, y = 0)
canvas. create_rectangle (200, 200, 600, 600, fill = "yellow",
                          outline = "red", width = 4)
canvas. create_rectangle (300, 300, 500, 500, fill = "lightblue",
                          outline = "blue")
canvas. create_polygon (200, 200, 400, 33, 600, 200,
                        fill = "yellow", outline = "red", width = 4)
win. mainloop()
```

tk



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Type here to search

Page No.
Date

2] write a Program to Print current date using multithread (create two threads)

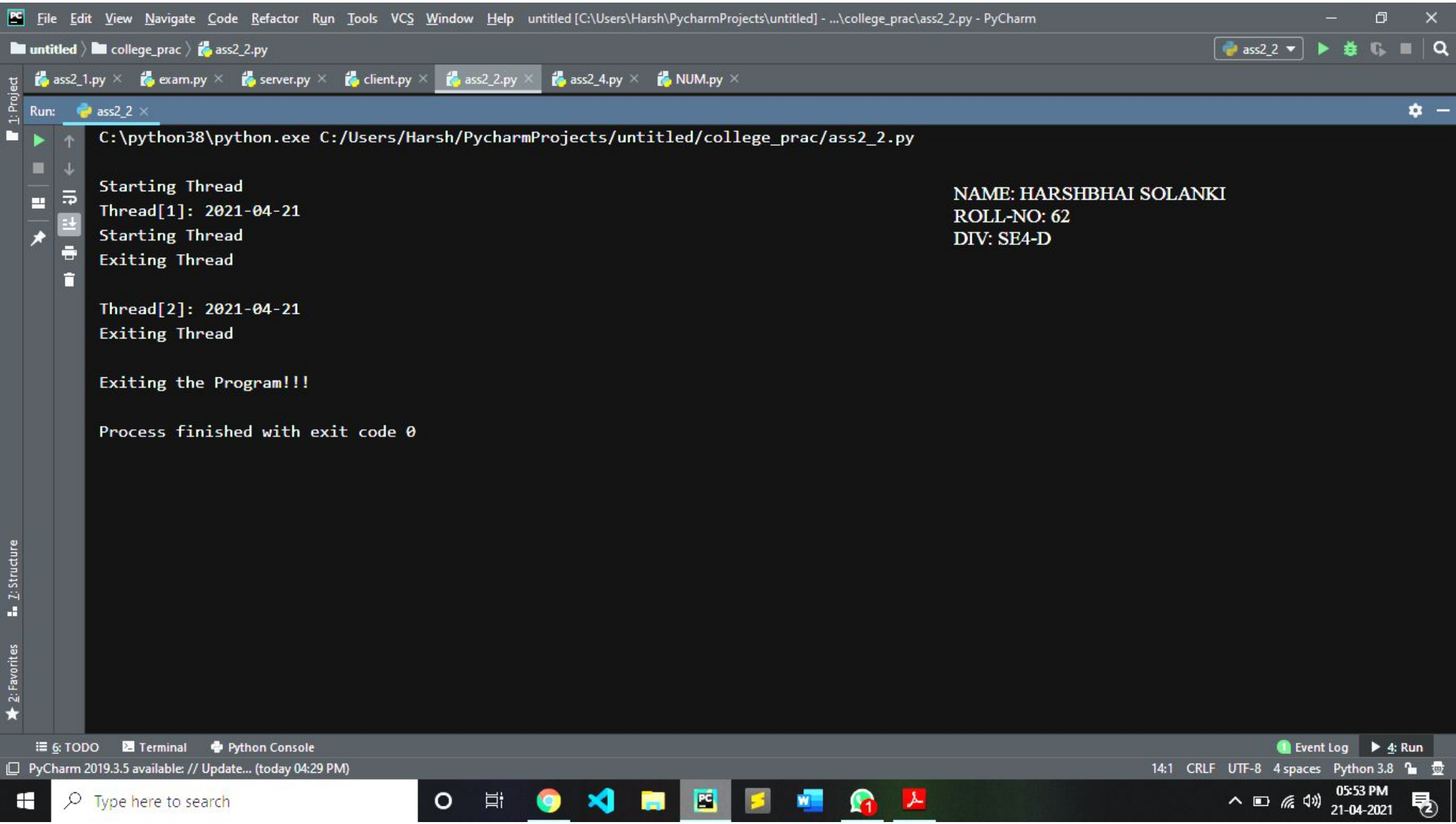
⇒

```
import threading
import datetime

class myThread (threading.Thread):
    def __init__ (self, name, counter):
        threading.Thread.__init__ (self)
        self.threadID = counter
        self.name = name
        self.counter = counter
    def run (self):
        print ("\n Starting " + self.name)
        print_date (self.name, self.counter)
        print (" Exiting " + self.name)

def print_date (threadName, counter):
    datefields = []
    today = datetime.date.today ()
    datefields.append (today)
    print ("%s [%s]: %s". format (threadName, counter, datefileds[0]))

thread1 = myThread ("Thread", 1)
thread2 = myThread ("Thread", 2)
thread1.start ()
thread2.start ()
thread1.join ()
thread2.join ()
print ("\n Exiting the Program")
```


File Edit View Navigate Code Refactor Run Tools VCS Window Help untitled [C:\Users\Harsh\PycharmProjects\untitled] - ...\college_prac\ass2_2.py - PyCharm
untitled college_prac ass2_2.py
ass2_1.py exam.py server.py client.py ass2_2.py ass2_4.py NUM.py
Run: ass2_2
C:\python38\python.exe C:/Users/Harsh/PycharmProjects/untitled/college_prac/ass2_2.py
Starting Thread
Thread[1]: 2021-04-21
Starting Thread
Exiting Thread
Thread[2]: 2021-04-21
Exiting Thread
Exiting the Program!!!
Process finished with exit code 0
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6: TODO Terminal Python Console Event Log 4: Run
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21-04-2021

3) write a numpy program to perform following:

a. find union of two arrays.

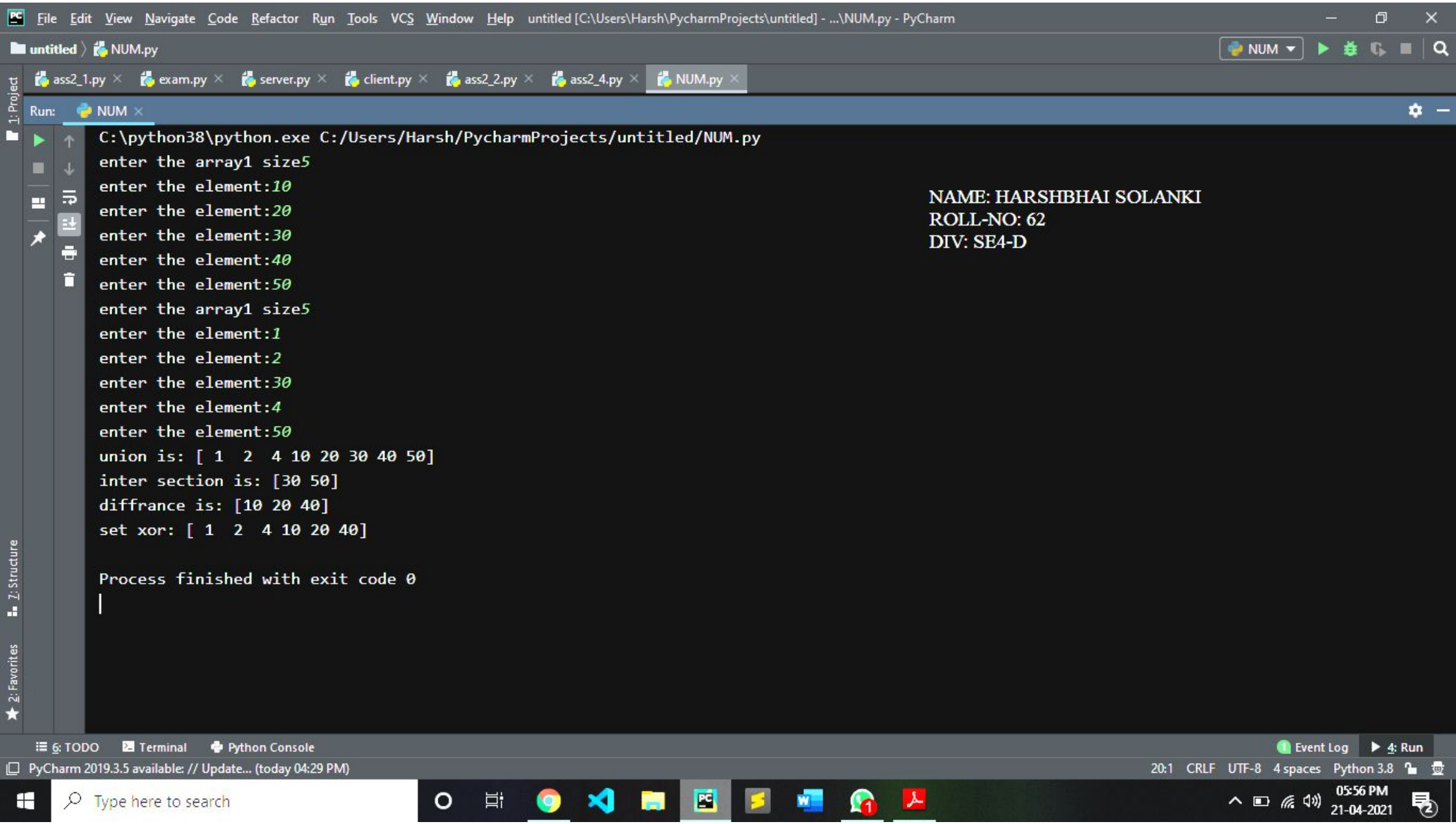
b. find common value between two arrays.

c. find difference of two arrays.

d. find set exclusive-or of two arrays.

⇒

```
from numpy import *
n1 = int(input("Enter array 1 size"))
x1 = zeros(n1, dtype=int)
u = len(x1)
i = 0
while i<u:
    x = int(input("Enter the element"))
    x1[i] = x
    i+=1
n2 = int(input("Enter array 2 size"))
x2 = zeros(n2, dtype=int)
v = len(x2)
j = 0
while j<v:
    x = int(input("Enter the element:"))
    x2[i] = x
    j+=1
arr1 = array(x1)
arr2 = array(x2)
print("Union is : {union1d(arr1, arr2)}")
print("common values : {intersect1d(arr1, arr2)}")
print("difference : {setdiff1d(arr1, arr2)}")
print("set xor : {setxor1d(arr1, arr2)}")
```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untitled NUM.py
NUM
ass2_1.py exam.py server.py client.py ass2_2.py ass2_4.py NUM.py
Run: NUM
C:\python38\python.exe C:/Users/Harsh/PycharmProjects/untitled/NUM.py
enter the array1 size5
enter the element:10
enter the element:20
enter the element:30
enter the element:40
enter the element:50
enter the array1 size5
enter the element:1
enter the element:2
enter the element:30
enter the element:4
enter the element:50
union is: [1 2 4 10 20 30 40 50]
inter section is: [30 50]
diffrance is: [10 20 40]
set xor: [1 2 4 10 20 40]
Process finished with exit code 0
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6: TODO Terminal Python Console
Event Log 4: Run
PyCharm 2019.3.5 available: // Update... (today 04:29 PM)
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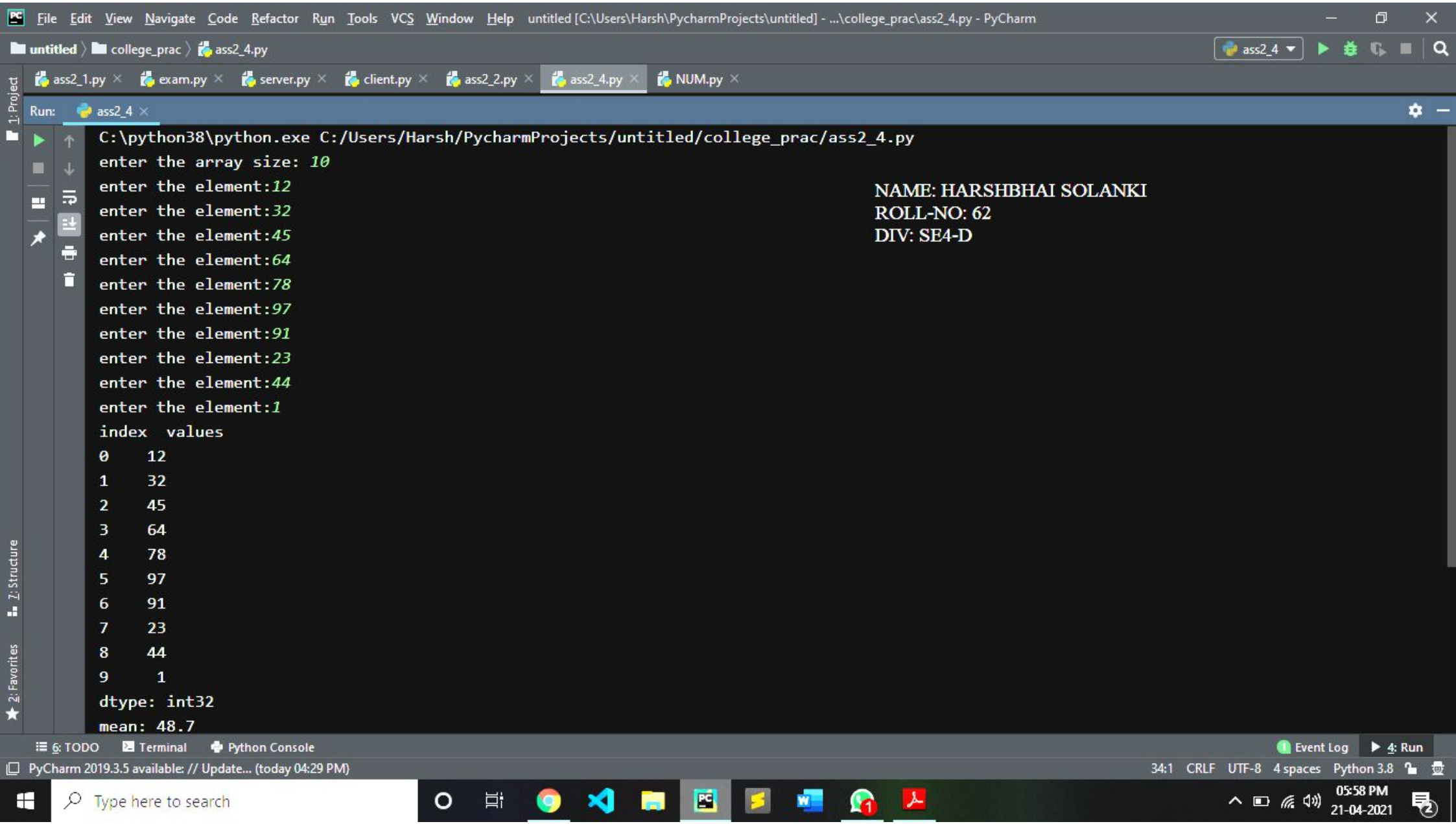
21-04-2021

4] write a Pandas Program to compute the mean, std, min, 25th Percentile, 75th Percentile, median, max of given data series.

⇒

```
from numpy import *
import Pandas as Pd
n1 = int(input(" Enter the array size"))
x1 = zeros (n1, dtype = int)
u = len(x1)
i = 0
while i < u:
    x = int(input(" Enter the element: "))
    x1[i] = x
    i += 1
data = array(x1)
df = Pd.Series(data)
Print ("index  values")
Print(df)
Print(f" mean: {df.mean()}")
Print(f"Standard deviation : {df.std()}")
Print(f" min of series : {df.min()}")
Print(f" max of series : {df.max()}")
Print(f" median of series : {df.median()}")
Print(f" 25th Percentile : {Percentile(data, 25)}")
Print(f" 75th Percentile : {percentile(data, 75)}")
```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untitled college_prac ass2_4.py
ass2_4
ass2_1.py exam.py server.py client.py ass2_2.py ass2_4.py NUM.py
Run: ass2_4
C:\python38\python.exe C:/Users/Harsh/PycharmProjects/untitled/college_prac/ass2_4.py
enter the array size: 10
enter the element:12
enter the element:32
enter the element:45
enter the element:64
enter the element:78
enter the element:97
enter the element:91
enter the element:23
enter the element:44
enter the element:1
index values
0 12
1 32
2 45
3 64
4 78
5 97
6 91
7 23
8 44
9 1
dtype: int32
mean: 48.7
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Event Log 4: Run
PyCharm 2019.3.5 available: // Update... (today 04:29 PM)
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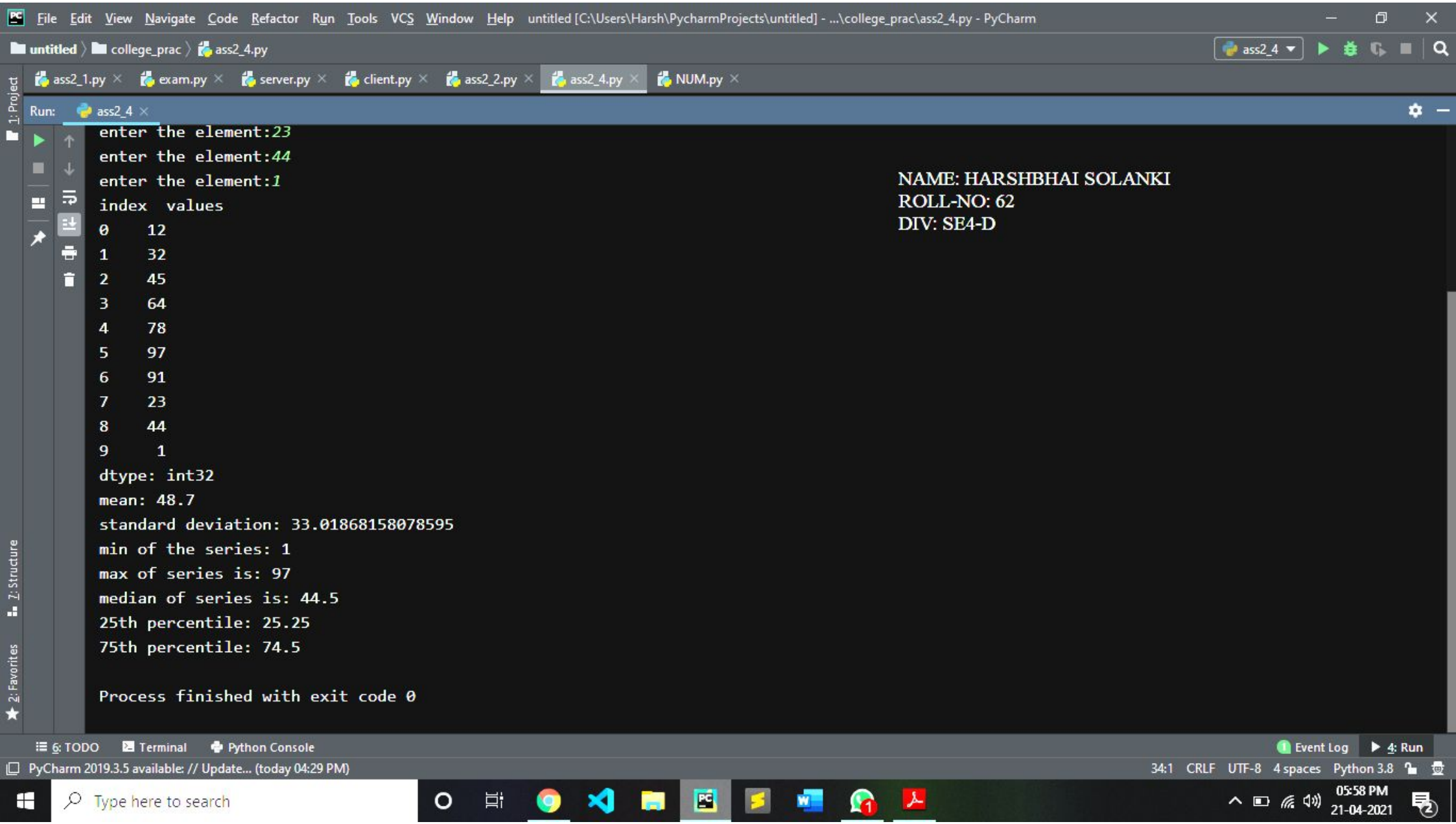
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untitled college_prac ass2_4.py
ass2_4
ass2_1.py exam.py server.py client.py ass2_2.py ass2_4.py NUM.py
Run: ass2_4
enter the element:23
enter the element:44
enter the element:1
index values
0 12
1 32
2 45
3 64
4 78
5 97
6 91
7 23
8 44
9 1
dtype: int32
mean: 48.7
standard deviation: 33.01868158078595
min of the series: 1
max of series is: 97
median of series is: 44.5
25th percentile: 25.25
75th percentile: 74.5
Process finished with exit code 0
NAME: HARSHBHAI SOLANKI
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PyCharm 2019.3.5 available: // Update... (today 04:29 PM)
34:1 CRLF UTF-8 4 spaces Python 3.8
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