

Program Structures & Algorithms

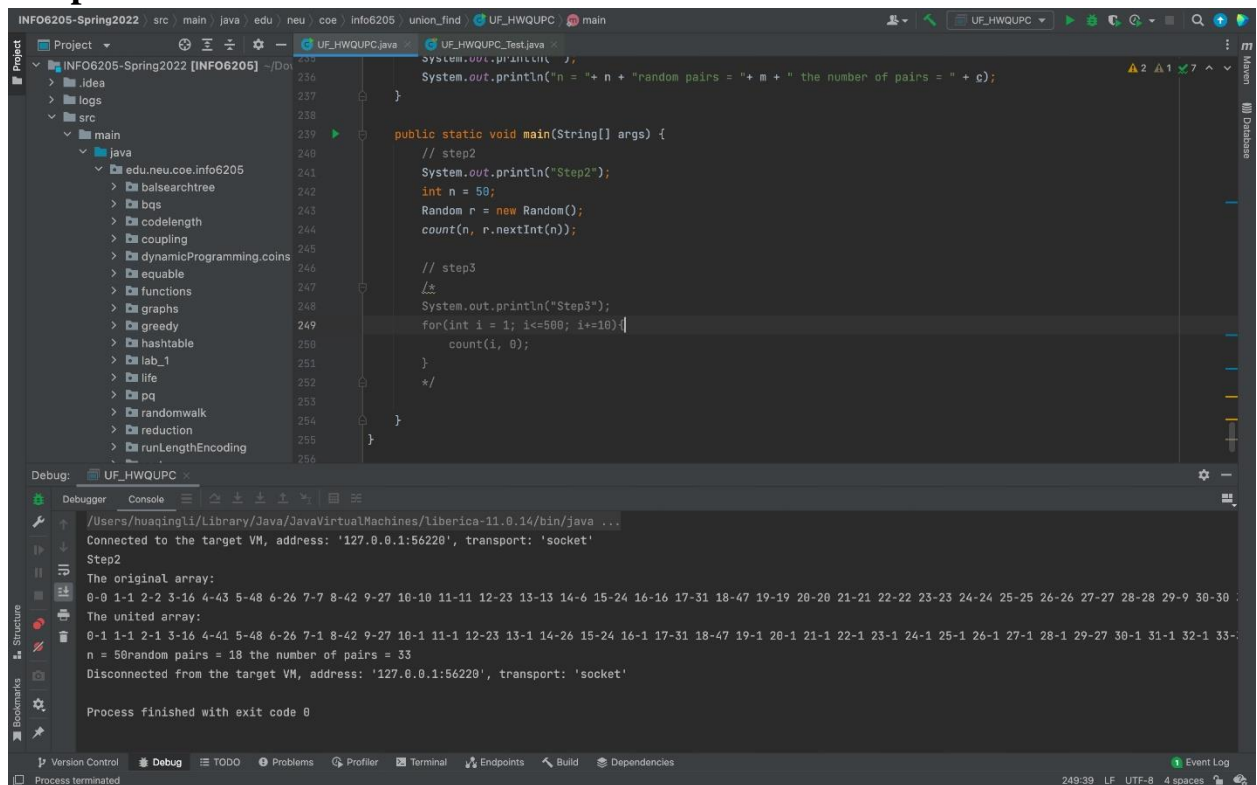
Spring 2022

Assignment No. 3

Name: Huajie LI

(NUID): 002989082

- Task
WQUPC
- Output screenshot



The screenshot displays an IDE with a project named 'INFO6205-Spring2022'. The code editor shows a Java file 'UF_HWQUPC.java' with the following content:

```
236 system.out.println(" ");
237
238
239
240 public static void main(String[] args) {
241     // step2
242     System.out.println("Step2");
243     int n = 50;
244     Random r = new Random();
245     count(n, r.nextInt(n));
246
247     // step3
248     System.out.println("Step3");
249     for(int i = 1; i<=500; i+=10){
250         count(i, 0);
251     }
252     */
253 }
254
255
256
```

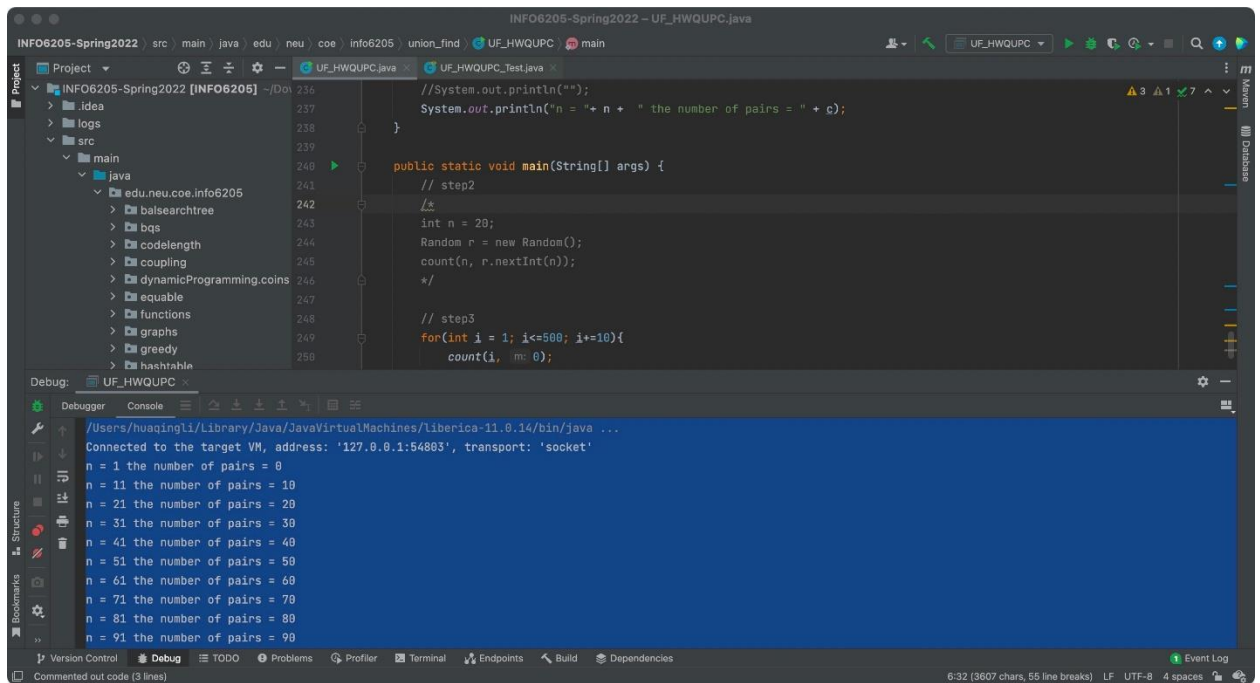
The console output shows the following:

```
Connected to the target VM, address: '127.0.0.1:56228', transport: 'socket'
Step2
The original array:
0-0 1-1 2-2 3-16 4-43 5-48 6-26 7-7 8-42 9-27 10-10 11-11 12-23 13-13 14-6 15-24 16-16 17-31 18-47 19-19 20-20 21-21 22-22 23-23 24-24 25-25 26-26 27-27 28-28 29-9 30-30
The united array:
0-1 1-1 2-1 3-16 4-41 5-48 6-26 7-1 8-42 9-27 10-1 11-1 12-23 13-1 14-26 15-24 16-1 17-31 18-47 19-1 20-1 21-1 22-1 23-1 24-1 25-1 26-1 27-1 28-1 29-27 30-1 31-1 32-1 33-
n = 50random pairs = 18 the number of pairs = 33
Disconnected from the target VM, address: '127.0.0.1:56228', transport: 'socket'
Process finished with exit code 0
```

- Relationship Conclusion

$$n = m + 1$$

- Evidence / Graph



• Unit tests result

