

Advanced Programming (Java) – QAP3 Word Document

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Course: Advanced Programming (Java)

Assessment: QAP 3

Due Date: July 12, 2025

1. How many hours did it take you to complete this assessment?

- Problem 1: 1.5 hours
- Problem 2: 1 hour
- Problem 3: 1.5 hours
- Problem 4: 1.5 hours
- Total: Approx. 5.5 hours

2. What online resources did you use?

- Stack Overflow
- Oracle Java Documentation
- YouTube
- Java tutorials (w3schools, GeeksForGeeks)

3. Did you get help from any classmates?

No.

4. Did you ask for help from an instructor?

No.

5. Rate the difficulty of each problem and your confidence in solving similar problems in the future.

- **Problem 1:** Medium – Confident
 - **Problem 2:** Medium – Confident
 - **Problem 3:** Medium to Hard – Fairly confident
 - **Problem 4:** Hard – Now more confident after practice
-

Problem 1 Output:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

● keyin@Keiras-MBP QAP3 % javac Problem1/*.java
● keyin@Keiras-MBP QAP3 % java Problem1.Demo
Coach Bob, age: 27, gender: M
Lynne Brooke, age: 16, gender: F, ID: HS95129, GPA: 3.5
Duke Java, age: 34, gender: M, Subject: Computer Science, Salary: $50000.0
Ima Frosh, age: 18, gender: F, ID: UCB123, GPA: 4.0, Year: 1, Major: English
○ keyin@Keiras-MBP QAP3 %
```

Problem 2 Output:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

● keyin@Keiras-MBP QAP3 % javac Problem2/*.java
● keyin@Keiras-MBP QAP3 % java Problem2.Demo
Point p1: (1.1,2.2)
MovablePoint mp1: (0.0,0.0), speed=(3.3,4.4)
Before move: (1.0,2.0), speed=(0.5,0.5)
After move: (1.5,2.5), speed=(0.5,0.5)
○ keyin@Keiras-MBP QAP3 %
```

Problem 3 Output:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

● keyin@Keiras-MBP QAP3 % javac Problem3/*.java
● keyin@Keiras-MBP QAP3 % java Problem3.Demo
Circle – Area: 78.53981633974483, Perimeter: 31.41592653589793
Ellipse – Area: 75.39822368615503, Perimeter: 320.4424506661589
Triangle – Area: 6.0, Perimeter: 12.0
Equilateral Triangle – Area: 15.588457268119896, Perimeter: 18.0
○ keyin@Keiras-MBP QAP3 %
```

Problem 4 Output (before and after scaling):

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

● keyin@Keiras-MBP QAP3 % javac Problem4/*.java
● keyin@Keiras-MBP QAP3 % java Problem4.Demo
Before scaling:
Circle – Area: 28.274333882308138, Perimeter: 18.84955592153876
Ellipse – Area: 47.12388980384689, Perimeter: 207.34511513692635
Triangle – Area: 6.0, Perimeter: 12.0
Equilateral Triangle – Area: 15.588457268119896, Perimeter: 18.0

After scaling by factor of 2:
Circle – Area: 113.09733552923255, Perimeter: 37.69911184307752
Ellipse – Area: 188.49555921538757, Perimeter: 829.3804605477054
Triangle – Area: 24.0, Perimeter: 24.0
Equilateral Triangle – Area: 62.353829072479584, Perimeter: 36.0
○ keyin@Keiras-MBP QAP3 %
```