



Student Preparation Program for the Semester 2

Programming Tutorial

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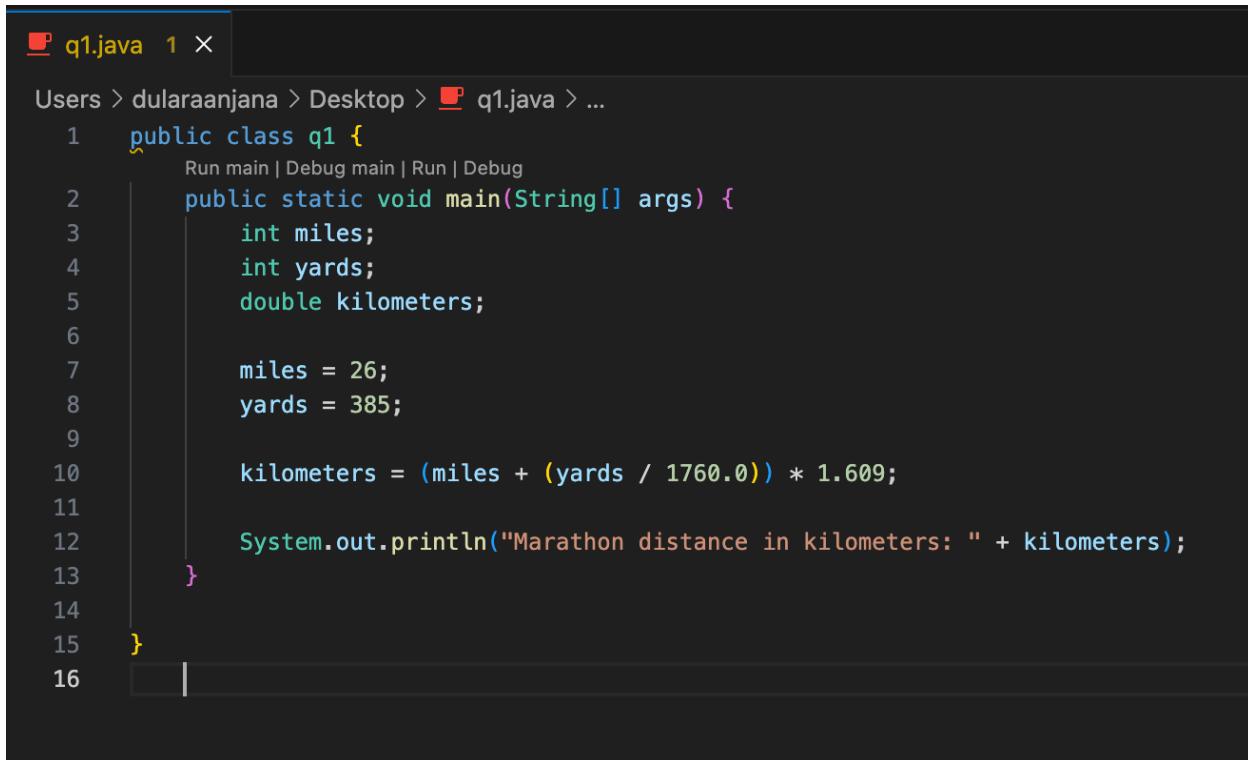
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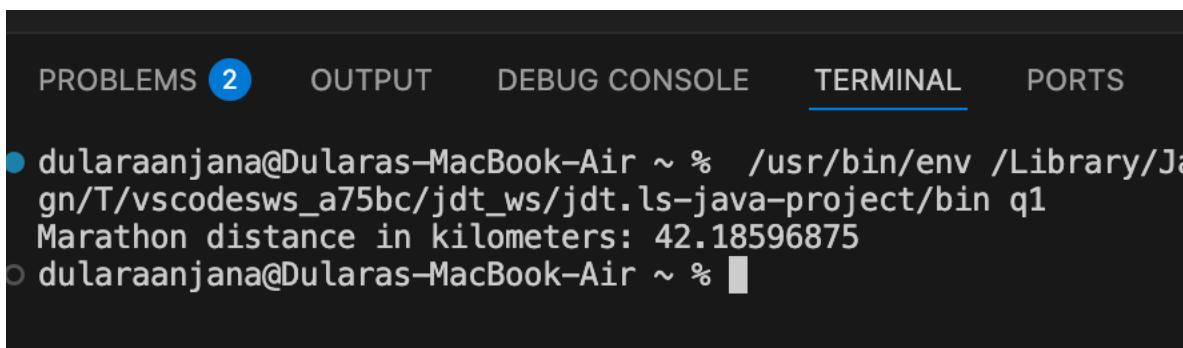
Q1



The screenshot shows a Java code editor window with a dark theme. The file is named "q1.java". The code calculates the distance of a marathon in kilometers from miles and yards.

```
q1.java 1 ×  
Users > dularaanjana > Desktop > q1.java > ...  
1 public class q1 {  
2     Run main | Debug main | Run | Debug  
3     public static void main(String[] args) {  
4         int miles;  
5         int yards;  
6         double kilometers;  
7  
8         miles = 26;  
9         yards = 385;  
10  
11         kilometers = (miles + (yards / 1760.0)) * 1.609;  
12         System.out.println("Marathon distance in kilometers: " + kilometers);  
13     }  
14  
15 }  
16
```

Output



The screenshot shows a terminal window with several tabs: PROBLEMS (2), OUTPUT, DEBUG CONSOLE, TERMINAL (which is selected), and PORTS. The terminal shows the command `/usr/bin/env /Library/Jag/T/vscodesws_a75bc/jdt_ws/jdt.ls-java-project/bin q1` being run, followed by the output "Marathon distance in kilometers: 42.18596875".

PROBLEMS	OUTPUT	DEBUG CONSOLE	TERMINAL	PORTS
2			Marathon distance in kilometers: 42.18596875	

Q2

```
q2.java 1 X
Users > dularaanjana > Desktop > q2.java > Language Support for Java(TM) by Red Hat > q2 > main
1 public class q2 {
2     Run main | Debug main | Run | Debug
3     public static void main(String[] args) {
4         int[] A = {10, 20, 30, 40, 50};
5         int[] B = {34, 67, 12, 89, 12};
6         int[] C = new int[5];
7
8         for (int i = 0; i < 5; i++) {
9             C[i] = A[i] + B[i];
10
11         System.out.print(s:"Array C: [");
12         for (int i = 0; i < 5; i++) {
13             System.out.print(C[i]);
14             if (i < 4) {
15                 System.out.print(s:", ");
16             }
17         }
18         System.out.println(x:"]");
19     }
20 }
```

Output

PROBLEMS	OUTPUT	DEBUG CONSOLE	TERMINAL	PORTS
● dularaanjana@Dularas-MacBook-Air ~ % /usr/bin/env /Library/gn/T/vscodesws_a75bc/jdt_ws/jdt.ls-java-project/bin q2				
	Array C: [44, 87, 42, 129, 62]			
○ dularaanjana@Dularas-MacBook-Air ~ %				

Q3

Demo.java 3 X

Users > dularaanjana > Desktop > Demo.java > ...

```
1 import java.util.Scanner;
2
3 class EvenOddNumber {
4     public boolean findEvenOrOdd(int i) {
5         if (i % 2 == 0) {
6             return true;
7         } else {
8             return false;
9         }
10    }
11 }
12
13 public class Demo {
14     Run main | Debug main | Run | Debug
15     public static void main(String[] args) {
16         Scanner input = new Scanner(System.in);
17
18         EvenOddNumber obj = new EvenOddNumber();
19
20         System.out.print("Enter a number: ");
21         int number = input.nextInt();
22
23         boolean result = obj.findEvenOrOdd(number);
24
25         if (result) {
26             System.out.println(number + " is an Even number.");
27         } else {
28             System.out.println(number + " is an Odd number.");
29         }
30     }
31 }
32 }
```

Output

PROBLEMS 3 OUTPUT DEBUG CONSOLE TERMINAL PORTS

- dularaanjana@Dularas-MacBook-Air ~ % /usr/bin/env /Library/Java/JavaVirtualMachine-1.4.2/jdt_ws/jdt.ls-java-project/bin Demo
Enter a number: 59
59 is an Odd number.
- dularaanjana@Dularas-MacBook-Air ~ % █

Q4

```
1 public class Stars {
2     Run | Debug | Run main | Debug main
3     public static void main(String[] args) {
4         int row = 0;
5         while (row < 5) {
6             int col = 0;
7             while (col < 5) {
8                 System.out.print("* ");
9                 col++;
10            }
11            System.out.println();
12            row++;
13        }
14        System.out.println();
15    }
16
17    for (int i = 1; i <= 5; i++) {
18        for (int j = 5; j > i; j--) {
19            System.out.print(" ");
20        }
21        for (int k = 1; k <= i; k++) {
22            System.out.print("* ");
23        }
24        System.out.println();
25    }
26 }
27 }
28 }
```

Output

- dularaanjana@Dularas-MacBook-Air ~ % /usr/bin/env /Library/Java/Java(TM)/vscodesws_e6f4b/jdt_ws/jdt.ls-java-project/bin Stars
- * * * * *
- * * * * *
- * * * * *
- * * * * *
- * * * * *
-
- *
- * *
- * * *
- * * * *
- * * * * *

Q5

The screenshot shows a Java code editor with two files open:

- Calculator.java**: A class with three methods: add, multiply, and square.
- Cal.java**: A class with a main method that creates an instance of Calculator, performs some calculations, and prints the results.

```
1  class Calculator {  
2      public int add(int n1, int n2) {  
3          return n1 + n2;  
4      }  
5      public int multiply(int n1, int n2) {  
6          return n1 * n2;  
7      }  
8      public int square(int n) {  
9          return n * n;  
10     }  
11 }  
12  
13 public class Cal {  
14     Run | Debug | Run main | Debug main  
15     public static void main(String[] args) {  
16         Calculator calc = new Calculator();  
17  
18         int step1 = calc.multiply(n1:3, n2:4);  
19         int step2 = calc.multiply(n1:5, n2:7);  
20         int sum1 = calc.add(step1, step2);  
21         int result1 = calc.square(sum1);  
22         System.out.println("Result 1: " + result1);  
23  
24         int val1 = calc.square(calc.add(n1:4, n2:7));  
25         int val2 = calc.square(calc.add(n1:8, n2:3));  
26         int result2 = calc.add(val1, val2);  
27         System.out.println("Result 2: " + result2);  
28     }  
29 }
```

- dularaanjana@Dularas-MacBook-Air ~ % /usr/bin/env /Library/gn/T/vscodesws_e6f4b/jdt_ws/jdt.ls-java-project/bin Cal
Result 1: 2209
Result 2: 242
- dularaanjana@Dularas-MacBook-Air ~ %