

Greg Cernera // Software Development I // Lab 3

cmpt220cernera - Java - Lab3/src/Problem5_1.java - Eclipse

File Edit Source Refactor Navigate Search Project Run Window Help

Package Explorer

- > driver_proj0.java [cmpt220cernera master]
- > Lab1 [cmpt220cernera master]
- > Lab2 [cmpt220cernera master]
- > Lab3 [cmpt220cernera master]
 - src
 - (default package)
 - Problem5_1.java
 - Problem5_16.java
 - Problem5_5.java
 - Problem6_1.java
 - Problem6_3.java
 - > JRE System Library [jre1.8.0_121]
 - > loops [cmpt220cernera master]
 - > Selections [cmpt220cernera master]

Problem5_1.java

```
1 import java.util.Scanner;
2
3 public class Problem5_1 {
4
5     // FINISHED
6     // (Count positive and negative numbers and compute the average of numbers)
7     public static void main(String[] args) {
8         Scanner input = new Scanner(System.in);
9         System.out.print("Enter an integer, the input ends if it is 0: ");
10        int user = 0;
11        int positive = 0;
12        int negative = 0;
13        int total = 0;
14        double average = 0;
15        double count = 0;
16
17        // each time the loop executes the next number is given to the user variable
18        // it is then checked if the number is positive or negative, adds to the total
19        // and keeps track of how many numbers to get the average
20        do {
21            user = input.nextInt();
22            total += user;
23            count++;
24
25            if (user > 0) {
26                positive++;
27            } else if (user < 0) {
28                negative++;
29            }
30        } while (user != 0);
31
32        count--;
33        average = total / count;
34
35        if (total == 0) {
36            System.out.println("No numbers are entered except 0.");
37        } else {
38            System.out.println("The number of positives is " + positive);
39            System.out.println("The number of negatives is " + negative);
40            System.out.println("The total is " + total);
41            System.out.println("The average is " + average);
42        }
43    }
44
45 }
46
```

Task List

Find

Outline

- Problem5_1
 - main(String[]): void

Problems Javadoc Declaration Console

<terminated> Problem5_1 [Java Application] C:\Program Files\Java\jre1.8.0_121\bin\javaw.exe (Feb 7, 2017, 7:09:32 PM)

Enter an integer, the input ends if it is 0: 0

No numbers are entered except 0.

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The screenshot shows the Eclipse IDE interface. The main editor window displays the source code for a Java class named `Problem5_5`. The code is as follows:

```

1 public class Problem5_5 {
2
3
4     // FINISHED
5     //(Conversion from kilograms to pounds and pounds to kilograms)
6     public static void main(String[] args) {
7         System.out.println("Kilograms\tPounds\t\t\tPounds\t\tKilograms");
8
9         // convert kilograms to pounds and display
10        // convert pounds to kilograms and display
11        for (int i = 1, j = 20; i <= 199; i += 2, j += 5) {
12            System.out.printf("%d\t\t%.1f\t\t\t\t%.2f\n", i, i * 2.2, j, j / 2.2);
13        }
14    }
15
16
17
18
19 }

```

The Package Explorer on the left shows the project structure, including the `src` folder and the `JRE System Library`. The Task List and Outline views are on the right. The Console at the bottom shows the output of the program, indicating it has terminated.

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cmpt220cernera - Java - Lab3/src/Problem5_16.java - Eclipse

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 - > Selections [cmpt220cernera master]

Problem5_16.java

```
1 import java.util.Scanner;
2
3 public class Problem5_16 {
4
5     // FINISHED
6     // (Find the factors of an integer)
7     public static void main(String[] args) {
8         Scanner input = new Scanner(System.in);
9         System.out.print("Enter an integer: ");
10        int n = input.nextInt();
11        String output = "";
12
13        // check for the factor and only increase if it hasn't worked
14        for (int i = 2; i <= n; ) {
15            if (n % i == 0) {
16                output += i + " ";
17                n = n / i;
18            } else {
19                i++;
20            }
21        }
22        System.out.println(output);
23    }
24 }
25
26
27
28 }
```

Task List

Find All Activate... ?

Outline

- Problem5_16
 - main(String[]): void

Problems Javadoc Declaration Console

<terminated> Problem5_1 [Java Application] C:\Program Files\Java\jre1.8.0_121\bin\javaw.exe (Feb 7, 2017, 7:09:32 PM)

Enter an integer, the input ends if it is 0: 0

No numbers are entered except 0.

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cmpt220cernera - Java - Lab3/src/Problem6_1.java - Eclipse

File Edit Source Refactor Navigate Search Project Run Window Help

Package Explorer

- > driver_proj0.java [cmpt220cernera master]
- > Lab1 [cmpt220cernera master]
- > Lab2 [cmpt220cernera master]
- > Lab3 [cmpt220cernera master]
- > src
 - (default package)
 - Problem5_1.java
 - Problem5_16.java
 - Problem5_5.java
 - Problem6_1.java
 - Problem6_3.java
 - JRE System Library [jre1.8.0_121]
- > loops [cmpt220cernera master]
- > Selections [cmpt220cernera master]

Problem6_1.java

```
1 public class Problem6_1 {
2
3
4 // FINISHED
5 // (Math: pentagonal numbers)
6 public static int getPentagonalNumber(int n) {
7     return (n * (3*n - 1)) / 2;
8 }
9
10 public static void main(String[] args) {
11
12     for (int i = 1; i <= 100; i++) {
13         System.out.print(getPentagonalNumber(i) + " ");
14
15         if (i % 10 == 0) {
16             System.out.print("\n");
17         }
18     }
19 }
20
21
22 }
23
```

Task List

Outline

- Problem6_1
 - getPentagonalNumber(int)
 - main(String[]): void

Problems @ Javadoc Declaration Console

<terminated> Problem5_1 [Java Application] C:\Program Files\Java\jre1.8.0_121\bin\javaw.exe (Feb 7, 2017, 7:09:32 PM)

Enter an integer, the input ends if it is 0: 0

No numbers are entered except 0.

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cmpt220cernera - Java - Lab3/src/Problem6_3.java - Eclipse

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- loops [cmpt220cernera master]
- Selections [cmpt220cernera master]

Problem5_1.java Problem5_5.java Problem5_16.java Problem6_1.java Problem6_3.java

```
1 import java.util.Scanner;
2
3 public class Problem6_3 {
4
5     // FINISHED
6     // (Palindrome integer)
7
8     // Return the reversal of an integer, i.e., reverse(456) returns 654
9     public static int reverse(int number) {
10         int newNumber = 0;
11         while (number > 0) {
12             int digit = number % 10;
13             newNumber = (newNumber * 10) + digit;
14             number /= 10;
15         }
16         return newNumber;
17     }
18
19     // Return true if number is palindrome
20     public static boolean isPalindrome(int number) {
21         if (reverse(number) == number) {
22             return true;
23         } else {
24             return false;
25         }
26     }
27
28     public static void main(String[] args) {
29         Scanner input = new Scanner(System.in);
30         System.out.print("Enter an integer: ");
31         int n = input.nextInt();
32
33         if (isPalindrome(n) == true) {
34             System.out.println("The number " + n + " is a palindrome");
35         } else {
36             System.out.println("The number " + n + " is not a palindrome");
37         }
38     }
39 }
40
41
42
```

Task List

Find

Outline

- Problem6_3
 - reverse(int) : int
 - isPalindrome(int) : boolean
 - main(String[]) : void

Problems @ Javadoc Declaration Console

<terminated> Problem5_1 [Java Application] C:\Program Files\Java\jre1.8.0_121\bin\javaw.exe (Feb 7, 2017, 7:09:32 PM)

Enter an integer, the input ends if it is 0: 0

No numbers are entered except 0.

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