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3rd module: 4.1

```java
1  package oracle;
2
3  import java.util.Scanner;
4
5  public class test {
6
7      private final String name;
8      private final String username;
9      private final String email;
10     private String password;
11
12     public test() {
13         this.name = setName();
14         this.username = setUserName(name);
15         this.email = setEmail(username);
16         this.password = setPassword(username);
17     }
18
19     @Override
20     public String toString() {
21         return "Employee Details\n" +
22                 "Name: " + name + "\n" +
23                 "Username: " + username + "\n" +
24                 "Email: " + email + "\n" +
```

```java
23                    "Username: " + username + "\n" +
24                    "Email: " + email + "\n" +
25                    "Initial Password: " + password;
26        }
27
28●    private int countChars(String str, char ch) {
29            int count = 0;
30            for (int i = 0; i < str.length(); i++) {
31                if (str.charAt(i) == ch) {
32                    count++;
33                }
34            }
35            return count;
36        }
37
38●    private String setName() {
39            Scanner scanner = new Scanner(System.in);
40            String name;
41            int count;
42            do {
43                System.out.print("Enter your full name (first and last name): ");
44                name = scanner.nextLine();
45                count = countChars(name, ' ');
46            } while (count != 1);
47            return name;
48        }
49
50●    private String setUserName(String name) {
51            return name.toLowerCase().replace(" ", "");
52        }
53
54●    private String setEmail(String username) {
55            String[] parts = username.split("(?<=\\G.{1})");
56            return parts[0] + parts[1] + "@oracleacademy.test";
57        }
58
59●    private String setPassword(String username) {
```

```java
54●    private String setEmail(String username) {
55            String[] parts = username.split("(?<=\\G.{1})");
56            return parts[0] + parts[1] + "@oracleacademy.test";
57        }
58
59●    private String setPassword(String username) {
60            String password = username.length() >= 8 ? username.substring(0, 8) : String.format("%-8s", username);
61            password = password.replaceAll("[aeiou]", "");
62            char[] passwordChars = password.toCharArray();
63            for (int i = 0; i < passwordChars.length; i++) {
64                if (Character.isAlphabetic(passwordChars[i])) {
65                    passwordChars[i] = Character.toUpperCase(passwordChars[i]);
66                    break;
67                }
68            }
69            return new String(passwordChars);
70        }
71
72●    public static void main(String[] args) {
73            test employee = new test();
74            System.out.println(employee);
75        }
76 }
```

Output:

```
Enter your full name (first and last name): sri patti
Employee Details
Name: sri patti
Username: sripatti
Email: sr@oracleacademy.test
Initial Password: Srptt
```

Problem 2:

```java
1  package oracle;
2
3  import java.util.Scanner;
4
5  public class test {
6      public String reverse(String str) {
7          String strRev = "";
8          for (int i = str.length() - 1; i >= 0; i--) {
9              strRev += str.charAt(i);
10         }
11         return strRev;
12     }
13
14     public static void main(String[] args) {
15         test reverser = new test();
16         String original = "Java Programming";
17         String reversed = reverser.reverse(original);
18         System.out.println("Original: " + original);
19         System.out.println("Reversed: " + reversed);
20     }
21
22
23 }
24
```

Output:

```
Original: Java Programming
Reversed: gnimmargorP avaJ
```

Problem 3:

```java
1  package oracle;
2
3  import java.util.Scanner;
4
5  public class test {
6      public static void main(String[] args) {
7
8          String str1 = "Hello";
9          StringBuilder str2 = new StringBuilder("Hello");
10
11          System.out.println(str1 + " " + str1.hashCode());
12          System.out.println(str2.toString() + " " + str2.hashCode());
13
14          str1 = str1 + "World";
15          str2.append("World");
16
17          System.out.println(str1 + " " + str1.hashCode());
18          System.out.println(str2.toString() + " " + str2.hashCode());
19
20      }
21
22  }
23
```

Output:

```
Hello 69609650
Hello 1387228415
HelloWorld 439329280
HelloWorld 1387228415
```

Problem 4:

```java
1 package oracle;
2
3 import java.util.Scanner;
4
5 public class test {
6
7
8     public String reverse(String str) {
9         StringBuilder sb = new StringBuilder(str);
10         sb.reverse();
11         return sb.toString();
12     }
13
14     public static void main(String[] args) {
15
16         test reverser = new test();
17
18         String original = "Java Programming";
19         String reversed = reverser.reverse(original);
20
21         System.out.println("Original: " + original);
22         System.out.println("Reversed: " + reversed);
23
24     }
25
26 }
27
```

Output:

```
Original: Java Programming
Reversed: gnimmargorP avaJ
```