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MODULE 3 :- 4-1 PRACTICE PROGRAMS

PROBLEM 1:-

```
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" +
```

```

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) {

```

```

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:

```
<terminated> test [Java Application] C:\Users\udayk\p2\p001\plugins\org.eclipse.justj.openjdk.hotsp
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:-

```
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:

```
<terminated> test [Java Application] C:\User
Original: Java Programming
Reversed: gnimmargorP avaJ
```

PROBLEM 3:-

```

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 :-

```

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

```