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MODULE -3 (4.2) :- PRACTICE PROGRAMS

PROBLEM 1 :-

```java
1   import java.util.Scanner;
2
3   public class Test {
4
5       private final String name;
6       private final String username;
7       private final String email;
8       private String password;
9
10      public Test() {
11          this.name = setName();
12          this.username = setUserName(name);
13          this.email = setEmail(username);
14          this.password = setPassword(username);
15      }
16
17      @Override
18      public String toString() {
19          return "Employee Details\n" +
20                  "Name: " + name + "\n" +
21                  "Username: " + username + "\n" +
22                  "Email: " + email + "\n" +
23                  "Initial Password: " + password;
24      }
25
26      private int countChars(String str, char ch) {
27          int count = 0;
28          for (int i = 0; i < str.length(); i++) {
29              if (str.charAt(i) == ch) {
30                  count++;
31              }
32          }
33          return count;
```

```java
34      }
35
36      private String setName() {
37          Scanner scanner = new Scanner(System.in);
38          String name;
39          int count;
40          do {
41              System.out.print("Enter your full name (first and last name): "
42              name = scanner.nextLine();
43              count = countChars(name, ' ');
44          } while (count != 1);
45          return name;
46      }
47
48      private String setUserName(String name) {
49          return name.toLowerCase().replace(" ", "");
50      }
51
52      private String setEmail(String username) {
53          String[] parts = username.split("(?<=\\G.{1})");
54          return parts[0] + parts[1] + "@oracleacademy.test";
55      }
56
57      private String setPassword(String username) {
58          String password = username.length() >= 8 ? username.substring(0, 8)
                );
59          password = password.replaceAll("[aeiou]", "");
60          char[] passwordChars = password.toCharArray();
61          for (int i = 0; i < passwordChars.length; i++) {
62              if (Character.isAlphabetic(passwordChars[i])) {
63                  passwordChars[i] = Character.toUpperCase(passwordChars[i]);
64                  break;
65              }
66          }
67          return new String(passwordChars);
68      }
```

```
69
70 ▾       public static void main(String[] args) {
71             Test employee = new Test();
72             System.out.println(employee);
73       }
74 }
```

Output:

```
java -cp /tmp/RS4Xfhvzam/Test
Enter your full name (first and last name): sandeep kumar
Employee Details
Name: sandeep kumar
Username: sandeepkumar
Email: sa@oracleacademy.test
Initial Password: Sndpk


=== Code Execution Successful ===
```

PROBLEM 2:

```
1  package oracle;
2
3  import java.util.Scanner;
4  import java.util.regex.*;
5
6  public class test {
7      public static void main(String[] args) {
8
9          String[] codedAnswerLines = {
10             "1", "A", "x", "b", "!", "C", "3", "e", "G", "D", "9", "F", "z", "f"
11         };
12
13         StringBuilder answers = new StringBuilder();
14
15         Pattern pattern = Pattern.compile("[a-fA-F]");
16
17         for (String line : codedAnswerLines) {
18             Matcher matcher = pattern.matcher(line);
19             if (matcher.find()) {
20                 answers.append(matcher.group());
21             }
22         }
23
24         System.out.println(answers.toString());
25     }
26
27  }
28
29
```

OUTPUT :

```
AbCeDFf
```

PROBLEM 3:

```java
1  package oracle;
2
3  public class RegeText {
4      public static void main(String[] args) {
5
6          String answers = "AaBbCcDdEeFf";
7
8          String finalAnswerKey = finalAnswers(answers);
9
10         System.out.println(finalAnswerKey);
11      }
12
13     public static String finalAnswers(String answers) {
14
15         answers = answers.replace('e', 'b')
16                           .replace('E', 'A')
17                           .replace('f', 'c')
18                           .replace('F', 'D');
19
20         answers = answers.toLowerCase();
21
22         return answers;
23     }
24 }
25
```

Output:

```
aabbccddabdc
```

PROBLEM 4 :

```java
1  package oracle;
2
3  public class RegText2 {
4      public static void main(String[] args) {
5
6          |
7          String[] strValues = {"anana", "banana", "gabanana"};
8
9          System.out.println("a) str.matches(\".?anana\"):");
10         for (String str : strValues) {
11             boolean result = str.matches(".?anana");
12             System.out.println("str = \"" + str + "\"; matches: " + result);
13         }
14
15         // Part b
16         String[] str2Values = {"banana", "anana", "shanana"};
17
18         System.out.println("\nb) str2.matches(\"[Bb]anana\"):");
19         for (String str2 : str2Values) {
20             boolean result = str2.matches("[Bb]anana");
21             System.out.println("str2 = \"" + str2 + "\"; matches: " + result);
22         }
23
24         // Part c
25         String[] str3Values = {"montanana", "anana", "_anana"};
26
27         System.out.println("\nc) str3.matches(\".*anana\"):");
28         for (String str3 : str3Values) {
29             boolean result = str3.matches(".*anana");
30             System.out.println("str3 = \"" + str3 + "\"; matches: " + result);
31         }
32     }
33
34 }
35
```

Output:

```
a) str.matches(".?anana"):
str = "anana"; matches: true
str = "banana"; matches: true
str = "gabanana"; matches: false

b) str2.matches("[Bb]anana"):
str2 = "banana"; matches: true
str2 = "anana"; matches: false
str2 = "shanana"; matches: false

c) str3.matches(".*anana"):
str3 = "montanana"; matches: true
str3 = "anana"; matches: true
str3 = "_anana"; matches: true
```