```java
// Harini. R 192324108
//JP section-4_2 question-1
package test;

import java.util.Scanner;

public class Employee1 {
    private final String name;
    private final String username;
    private final String email;
    private String password;

    public Employee1() {
        this.name = setName();
        this.username = setUserName(name);
        this.email = setEmail(username);
        this.password = setPassword(username);
    }
    @Override
    public String toString() {
        return "Employee Details\n" +
                "Name : " + name + "\n" +
                "Username : " + username + "\n" +
                "Email : " + email + "\n" +
                "Initial Password : " + password;
    }
    private int countChars(String str, char ch) {
        int count = 0;
        for (int i = 0; i < str.length(); i++) {
            if (str.charAt(i) == ch) {
                count++;
            }
        }
        return count;
    }
    private String setName() {
        Scanner scanner = new Scanner(System.in);
        String name;
```

```java
         String regex = "^[a-zA-Z]+\\s[a-zA-Z]+$";

         do {
             System.out.print("Enter your full name (first and last name): ");
             name = scanner.nextLine();

             if (!name.matches(regex)) {
                 System.out.println("Incorrect format for name. Please enter a first name followed by a space and a surname.");
             }
         } while (!name.matches(regex));

         return name;
     }
     private String setUserName(String name) {
         return name.toLowerCase().replace(" ", ".");
     }
     private String setEmail(String username) {
         String[] parts = username.split("\\.");
         return parts[0].charAt(0) + parts[1] + "@oracleacademy.Test";
     }
     private String setPassword(String username) {
         String password = username.length() >= 8 ? username.substring(0, 8) : String.format("%-8s", username).replace(' ', '*');
         password = password.replaceAll("[aeiou]", "*");
         char[] passwordChars = password.toCharArray();
         for (int i = 0; i < passwordChars.length; i++) {
             if (Character.isAlphabetic(passwordChars[i])) {
                 passwordChars[i] = Character.toUpperCase(passwordChars[i]);
                 break;
             }
         }
         return new String(passwordChars);
     }

     public static void main(String[] args) {
         Employee employee = new Employee();
         System.out.println(employee);
     }
 }
```

```
Enter your full name (first and last name): Harini raja
Employee Details
Name : Harini raja
Username : harini.raja
Email : hraja@oracleacademy.Test
Initial Password : H*r*n*.r
```

```java
// Harini. R 192324108
//JP section-4_2 question-2
import java.util.regex.*;

public class AnswerKeyProblem {
    public static void main(String args[]) {
        String[] codedAnswerLines = {
            "1", "A", "x", "b", "!", "C", "3", "e", "G", "D", "9", "F", "z", "f"
        };
        StringBuilder answers = new StringBuilder();
        Pattern pattern = Pattern.compile("[a-fA-F]");
        for (String line : codedAnswerLines) {
            Matcher matcher = pattern.matcher(line);
            if (matcher.find()) {
                answers.append(matcher.group());
            }
        }
        System.out.println(answers.toString());
    }
}
```

input

AbCeDFf

```java
// Harini. R 192324108
//JP section-4_2 question-3
public class AnswerKeyProblem {
    public static void main(String[] args) {
        String answers = "AaBbCcDdEeFf";
        String finalAnswerKey = finalAnswers(answers);
        System.out.println(finalAnswerKey);
    }
    public static String finalAnswers(String answers) {
        answers = answers.replace('e', 'b')
                         .replace('E', 'A')
                         .replace('f', 'c')
                         .replace('F', 'D');
        answers = answers.toLowerCase();
        return answers;
    }
}
```

aabbccddabdc

```java
// Harini. R 192324108
//JP section-4_2 question-4
public class RegexTest {
    public static void main(String[] args) {
        // Part a
        String[] strValues = {"anana", "banana", "gabanana"};
        System.out.println("a) str.matches(\"?anana\"):");
        for (String str : strValues) {
            boolean result = str.matches(".?anana");
            System.out.println("str = \"" + str + "\"; matches: " + result);
        }
        // Part b
        String[] str2Values = {"banana", "anana", "shanana"};
        System.out.println("\nb) str2.matches(\"[Bb]anana\"):");
        for (String str2 : str2Values) {
            boolean result = str2.matches("[Bb]anana");
            System.out.println("str2 = \"" + str2 + "\"; matches: " + result);
        }
        // Part c
        String[] str3Values = {"montanana", "anana", "_anana"};
        System.out.println("\nc) str3.matches(\".*anana\"):");
        for (String str3 : str3Values) {
            boolean result = str3.matches(".*anana");
            System.out.println("str3 = \"" + str3 + "\"; matches: " + result);
        }
    }
}
```

```
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
```