Practice 4.1

1) Soln:

```java
import java.util.Scanner;
public class Employee {
    private final String name;
    private final String username;
    private final String email;
    private String password;
    public Employee() {
        name = setName();
        username = setUserName(name);
        email = setEmail(username);
        password = setPassword(username);
    }
    // Method to generate Employee Details
    @Override
    public String toString() {
        return "Employee Details\n" +
            "Name : " + name + "\n" +
            "Username : " + username + "\n" +
            "Email : " + email + "\n" +
            "Initial Password : " + password;
    }

    // Method to count occurrences of a char in a String
    private int countChars(String str, char ch) {
        int count = 0;
        for (int i = 0; i < str.length(); i++) {
            if (str.charAt(i) == ch) {
                count++;
            }
```

```java
    }
    return count;
}


// Method to set the Employee name
private String setName() {
    Scanner scanner = new Scanner(System.in);
    String name;
    do {
        System.out.println("Enter the employee's first and last name (e.g., John Doe): ");
        name = scanner.nextLine();
    } while (countChars(name, ' ') != 1);
    return name;
}


// Method to generate username
private String setUserName(String name) {
    String[] parts = name.split(" ");
    return (parts[0] + "." + parts[1]).toLowerCase();
}


// Method to generate email address
private String setEmail(String username) {
    String[] parts = username.split("\\.");
    return parts[0].charAt(0) + parts[1] + "@oracleacademy.Test";
}


// Method to generate the password
private String setPassword(String username) {
    // Replace vowels with asterisks
    String password = username.replaceAll("[AEIOUaeiou]", "*");
```

```java
        // Ensure password length is 8 characters
        if (password.length() < 8) {
            while (password.length() < 8) {
                password += "*";
            }
        } else {
            password = password.substring(0, 8);
        }
        // Ensure at least one uppercase letter is present
        boolean hasUpper = false;
        for (char c : password.toCharArray()) {
            if (Character.isLetter(c) && Character.isUpperCase(c)) {
                hasUpper = true;
                break;
            }
        }
        if (!hasUpper) {
            for (int i = 0; i < password.length(); i++) {
                if (Character.isLetter(password.charAt(i))) {
                    password = password.substring(0, i) +
                            Character.toUpperCase(password.charAt(i)) +
                            password.substring(i + 1);
                    break;
                }
            }
        }
        return password;
    }
}
```

2) Soln:

```java
public String reverse(String str) {
    String strRev = "";
    for (int i = str.length() - 1; i >= 0; i--) {
        strRev += str.charAt(i);
    }
    return strRev;
}
```