Third module : 4.1

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1.

```java
package oracle;

import java.util.Scanner;

public class test {

    private final String name;
    private final String username;
    private final String email;
    private String password;

    public test() {
        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" +
```

```
                "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;
        int count;
        do {
            System.out.print("Enter your full name (first and last name): ");
            name = scanner.nextLine();
            count = countChars(name, ' ');
        } while (count != 1);
        return name;
    }

    private String setUserName(String name) {
        return name.toLowerCase().replace(" ", "");
    }

    private String setEmail(String username) {
        String[] parts = username.split("(?<=\\G.{1})");
        return parts[0] + parts[1] + "@oracleacademy.test";
    }

    private String setPassword(String username) {
```

```
    private String setEmail(String username) {
        String[] parts = username.split("(?<=\\G.{1})");
        return parts[0] + parts[1] + "@oracleacademy.test";
    }

    private String setPassword(String username) {
        String password = username.length() >= 8 ? username.substring(0, 8) : String.format("%-8s", username);
        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) {
        test employee = new test();
        System.out.println(employee);
    }
}
```

Output:

```
Enter your full name (first and last name): uday kiran
Employee Details
Name: uday kiran
Username: udaykiran
Email: ud@oracleacademy.test
Initial Password: Dykr
```

2.

```java
package oracle;

import java.util.Scanner;

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

	public static void main(String[] args) {
		test reverser = new test();
		String original = "Java Programming";
		String reversed = reverser.reverse(original);
		System.out.println("Original: " + original);
		System.out.println("Reversed: " + reversed);
	}


}

```

Output:

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

3.

```java
package oracle;

import java.util.Scanner;

public class test {
    public static void main(String[] args) {

        String str1 = "Hello";
        StringBuilder str2 = new StringBuilder("Hello");

        System.out.println(str1 + " " + str1.hashCode());
        System.out.println(str2.toString() + " " + str2.hashCode());

        str1 = str1 + "World";
        str2.append("World");

        System.out.println(str1 + " " + str1.hashCode());
        System.out.println(str2.toString() + " " + str2.hashCode());

    }

}
```

Output:

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

4.

```java
package oracle;

import java.util.Scanner;

public class test {


        public String reverse(String str) {
            StringBuilder sb = new StringBuilder(str);
            sb.reverse();
            return sb.toString();
        }

        public static void main(String[] args) {

            test reverser = new test();

            String original = "Java Programming";
            String reversed = reverser.reverse(original);

            System.out.println("Original: " + original);
            System.out.println("Reversed: " + reversed);

        }

    }

```

Output:

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