TASK

1.CLASS AND OBJECT

```
import java.util.ArrayList;
import java.util.Scanner;
class Account {
    private int id;
    private String account_number;
    private double account_balance;
    public Account(int id, String account_number, double account_balance) {
        this.id = id;
        this.account_number = account_number;
        this.account_balance = account_balance;
    }
    public int getId() {
        return id;
    }
    public String getAccountNumber() {
        return account_number;
    }
    public double getAccountBalance() {
        return account_balance;
```

```
    }
}
class User {
    private int id;
    private String user_name;
    private String password;
    private String email;
    private Account account;

    public User(int id, String user_name, String password, String email, Account
account) {
        this.id = id;
        this.user_name = user_name;
        this.password = password;
        this.email = email;
        this.account = account;
    }
    public int getId() {
        return id;
    }
    public String getUserName() {
        return user_name;
```

```
    }
    public String getPassword() {
        return password;
    }
    public String getEmail() {
        return email;
    }
    public Account getAccount() {
        return account;
    }
}
public class UserManagement {
    private static ArrayList<User> users = new ArrayList<>();
    private static int userIdCounter = 1;
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        while (true) {
            System.out.println("Choose an option:");
            System.out.println("1.Create User");
            System.out.println("2.Show Users");
            System.out.println("3.Exit");
```

```
        int choice = scanner.nextInt();
        switch (choice) {
            case 1:
                createUser(scanner);
                break;
            case 2:
                showUsers();
                break;
            case 3:
                System.out.println("Exiting the program.");
                scanner.close();
                return;
            default:
                System.out.println("Invalid choice.Please try again.");
                break;
        }
    }
}
private static void createUser(Scanner scanner) {
    System.out.println("Enter user details:");
    System.out.print("Username:");
    String userName = scanner.next();
```

```
        System.out.print("Password:");
        String password = scanner.next();
        System.out.print("Email:");
        String email = scanner.next();
        System.out.println("Enter account details:");
        System.out.print("Account ID:");
        int accountId = scanner.nextInt();
        System.out.print("Account Number:");
        String accountNumber = scanner.next();
        System.out.print("Account Balance:");
        double accountBalance = scanner.nextDouble();

        Account account = new Account(accountId, accountNumber,
accountBalance);
        User user = new User(userIdCounter++, userName, password, email,
account);
        users.add(user);
        System.out.println("User created successfully!");
    }
    private static void showUsers() {
        System.out.println("\nUsers:");
        for (User user : users) {
```

```
            System.out.println("User ID:" + user.getId());
            System.out.println("Username:" + user.getUserName());
            System.out.println("Password:" + user.getPassword());
            System.out.println("Email:" + user.getEmail());
            System.out.println("Account ID:" + user.getAccount().getId());
            System.out.println("Account Number:" +
user.getAccount().getAccountNumber());
            System.out.println("Account Balance:" +
user.getAccount().getAccountBalance());
            System.out.println("--------------------");
        }
    }
}
```

2.REGULAR EXPRESSION

```
import java.util.Scanner;
import java.util.regex.Matcher;
import java.util.regex.Pattern;
public class EmailValidation {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter your email address: ");
```

```
        String email = scanner.nextLine();
        if (isValidEmail(email)) {
            System.out.println("Valid");
        } else {
            System.out.println("Invalid");
        }
    }
    public static boolean isValidEmail(String email) {
        String pattern = "^[a-zA-Z][a-zA-Z0-9_]*@[a-zA-Z0-9_.]+\\.[a-zA-Z]{2,4}$";
        Pattern regex = Pattern.compile(pattern);
        Matcher matcher = regex.matcher(email);
        return matcher.matches();
    }
}
```