import java.util.Scanner;

abstract class UserProfile {

public abstract void input();

}

public class Profile extends UserProfile {

@Override

public void input() {

Scanner scanner = new Scanner(System.in);

System.out.println("User Profile:");

String fullName;

while (true) {

System.out.print("Enter Full Name: ");

fullName = scanner.nextLine();

if (!fullName.trim().isEmpty() && !fullName.matches(".\\d.")) {

break;

} else {

System.out.println("Invalid name. Please enter a valid name .");

}

}

String contactNumber;

while (true) {

System.out.print("Enter Contact Number: ");

contactNumber = scanner.nextLine();

if (!contactNumber.trim().isEmpty() && contactNumber.matches("\\d+")) {

break;

} else {

System.out.println("Invalid contact number. Please enter a valid number.");

}

}

System.out.print("Enter Email Address: ");

String emailAddress = scanner.nextLine();

System.out.print("Enter Address: ");

String address = scanner.nextLine();

String dateOfBirth;

while (true) {

System.out.print("Enter Date of Birth (YYYY-MM-DD): ");

dateOfBirth = scanner.nextLine();

if (dateOfBirth.matches("\\d{4}-\\d{2}-\\d{2}")) {

break;

} else {

System.out.println("Invalid date format.");

}

}

System.out.print("Enter Gender: ");

String gender = scanner.nextLine();

System.out.print("Enter Nationality: ");

String nationality = scanner.nextLine();

System.out.print("Enter LinkedIn Profile URL: ");

String linkedInProfileURL = scanner.nextLine();

System.out.print("Enter GitHub Profile URL: ");

String gitHubProfileURL = scanner.nextLine();

System.out.print("Enter Profile Image Path: ");

String profileImagePath = scanner.nextLine();

System.out.println("\nUser Profile:");

System.out.println("Full Name: " + fullName);

System.out.println("Contact Number: " + contactNumber);

System.out.println("Email Address: " + emailAddress);

System.out.println("Address: " + address);

System.out.println("Date of Birth: " + dateOfBirth);

System.out.println("Gender: " + gender);

System.out.println("Nationality: " + nationality);

System.out.println("LinkedIn Profile URL: " + linkedInProfileURL);

System.out.println("GitHub Profile URL: " + gitHubProfileURL);

System.out.println("Profile Image Path: " + profileImagePath);

}

public static void main(String[] args) {

Profile userProfile = new Profile();

userProfile.input();

}

}

import java.util.Scanner;

abstract class UserProfile {

public abstract void input();

}

public class Profile extends UserProfile {

@Override

public void input() {

Scanner scanner = new Scanner(System.in);

System.out.println("User Profile:");

String fullName;

while (true) {

System.out.print("Enter Full Name: ");

fullName = scanner.nextLine();

if (!fullName.trim().isEmpty() && !fullName.matches(".\\d.")) {

break;

} else {

System.out.println("Invalid name. Please enter a valid name.");

}

}

String contactNumber;

while (true) {

System.out.print("Enter Contact Number: ");

contactNumber = scanner.nextLine();

if (!contactNumber.trim().isEmpty() && contactNumber.matches("\\d+")) {

break;

} else {

System.out.println("Invalid contact number. Please enter a valid number.");

}

}

System.out.print("Enter Email Address: ");

String emailAddress = scanner.nextLine();

System.out.print("Enter Address: ");

String address = scanner.nextLine();

String dateOfBirth;

while (true) {

System.out.print("Enter Date of Birth (YYYY-MM-DD): ");

dateOfBirth = scanner.nextLine();

if (dateOfBirth.matches("\\d{4}-\\d{2}-\\d{2}")) {

break;

} else {

System.out.println("Invalid date format.");

}

}

System.out.print("Enter Gender: ");

String gender = scanner.nextLine();

System.out.print("Enter Nationality: ");

String nationality = scanner.nextLine();

System.out.print("Enter LinkedIn Profile URL: ");

String linkedInProfileURL = scanner.nextLine();

System.out.print("Enter GitHub Profile URL: ");

String gitHubProfileURL = scanner.nextLine();

System.out.print("Enter Profile Image Path: ");

String profileImagePath = scanner.nextLine();

System.out.println("\nUser Profile:");

System.out.println("Full Name: " + fullName);

System.out.println("Contact Number: " + contactNumber);

System.out.println("Email Address: " + emailAddress);

System.out.println("Address: " + address);

System.out.println("Date of Birth: " + dateOfBirth);

System.out.println("Gender: " + gender);

System.out.println("Nationality: " + nationality);

System.out.println("LinkedIn Profile URL: " + linkedInProfileURL);

System.out.println("GitHub Profile URL: " + gitHubProfileURL);

System.out.println("Profile Image Path: " + profileImagePath);

}

}

import java.util.Scanner;

// Abstract class representing education details

abstract class Education {

private String degreeName;

private String universityName;

private String fieldOfStudy;

private int graduationYear;

private double gpa;

private String honorsAwards;

private String relevantCourses;

private String thesisTitle;

private String educationalInstitutionLocation;

private String extracurricularActivities;

// Default constructor

public Education() {

this.degreeName = "Not Specified";

this.universityName = "Not Specified";

this.fieldOfStudy = "Not Specified";

this.graduationYear = 0;

this.gpa = 0.0;

this.honorsAwards = "Not Specified";

this.relevantCourses = "Not Specified";

this.thesisTitle = "Not Specified";

this.educationalInstitutionLocation = "Not Specified";

this.extracurricularActivities = "Not Specified";

}

// Constructor with parameters

public Education(String degreeName, String universityName, String fieldOfStudy, int graduationYear,

double gpa, String honorsAwards, String relevantCourses, String thesisTitle,

String educationalInstitutionLocation, String extracurricularActivities) {

this.degreeName = degreeName;

this.universityName = universityName;

this.fieldOfStudy = fieldOfStudy;

this.graduationYear = graduationYear;

this.gpa = gpa;

this.honorsAwards = honorsAwards;

this.relevantCourses = relevantCourses;

this.thesisTitle = thesisTitle;

this.educationalInstitutionLocation = educationalInstitutionLocation;

this.extracurricularActivities = extracurricularActivities;

}

// Function overloading in the input method

public void input() {

input(true);

}

public void input(boolean askDegreeName) {

Scanner scanner = new Scanner(System.in);

System.out.println("\nEducation Details:");

if (askDegreeName) {

while (true) {

System.out.print("Enter Degree Name: ");

degreeName = scanner.nextLine();

if (!degreeName.trim().isEmpty()) {

break;

} else {

System.out.println("Degree Name cannot be empty. Please enter a valid value.");

}

}

}

System.out.print("Enter University Name: ");

universityName = scanner.nextLine();

System.out.print("Enter Major/Field of Study: ");

fieldOfStudy = scanner.nextLine();

System.out.print("Enter Graduation Year: ");

graduationYear = scanner.nextInt();

System.out.print("Enter GPA: ");

gpa = scanner.nextDouble();

scanner.nextLine(); // Consume the newline character

System.out.print("Enter Honors/Awards: ");

honorsAwards = scanner.nextLine();

System.out.print("Enter Relevant Courses: ");

relevantCourses = scanner.nextLine();

System.out.print("Enter Thesis Title: ");

thesisTitle = scanner.nextLine();

System.out.print("Enter Educational Institution Location: ");

educationalInstitutionLocation = scanner.nextLine();

System.out.print("Enter Extracurricular Activities: ");

extracurricularActivities = scanner.nextLine();

}

// Display method (final to prevent further overriding)

public final void display() {

System.out.println("\nEducation Details:");

System.out.println("Degree Name: " + degreeName);

System.out.println("University Name: " + universityName);

System.out.println("Major/Field of Study: " + fieldOfStudy);

System.out.println("Graduation Year: " + graduationYear);

System.out.println("GPA: " + gpa);

System.out.println("Honors/Awards: " + honorsAwards);

System.out.println("Relevant Courses: " + relevantCourses);

System.out.println("Thesis Title: " + thesisTitle);

System.out.println("Educational Institution Location: " + educationalInstitutionLocation);

System.out.println("Extracurricular Activities: " + extracurricularActivities);

}

}

// Derived class representing higher education details

class HigherEducation extends Education {

private String researchTopic;

private String advisorName;

// Constructor with parameters

public HigherEducation(String degreeName, String universityName, String fieldOfStudy, int graduationYear,

double gpa, String honorsAwards, String relevantCourses, String thesisTitle,

String educationalInstitutionLocation, String extracurricularActivities,

String researchTopic, String advisorName) {

super(degreeName, universityName, fieldOfStudy, graduationYear, gpa, honorsAwards, relevantCourses,

thesisTitle, educationalInstitutionLocation, extracurricularActivities);

this.researchTopic = researchTopic;

this.advisorName = advisorName;

}

// Override display method to include additional details

@Override

public void display() {

super.display(); // Call the display method of the parent class

System.out.println("Research Topic: " + researchTopic);

System.out.println("Advisor Name: " + advisorName);

}

}

public class Main {

public static void main(String[] args) {

// Using the HigherEducation class

HigherEducation higherEducation = new HigherEducation("PhD in Computer Science", "ABC University",

"Computer Science", 2024, 4.0, "Best Research Paper Award",

"Advanced Algorithms, Machine Learning", "Efficient Machine Learning Models",

"City, Country", "Research Club", "Machine Learning Techniques", "Dr. Smith");

higherEducation.display();

}

}