**44-542 Object Oriented Programming**

**Lab08: Interfaces and Abstract Classes Lab Activity**

**Objective:** Covers the creation and usage of **Interfaces and Abstract classes.**

**NOTE:**

* Do not hard code any values.
* Check the sample output to know how the results need to be printed.
* Read every instruction carefully and follow them strictly.
* Do not change the name of the attributes and methods given.
* @author notation should contain your full name.
* Use the Javadoc given to you to know the instance variables, classes, interfaces, abstract classes.
* Follow the Javadoc carefully to know the dependencies and method descriptions.
* Ensure your code is indented properly.

**How to View Javadoc**:

* Go to “Javadoc” -> “index.html” to access the javadocs.

**Overview:**

* This lab lets you create a job application system that produces the job details based on applicant details.

**Steps for the Program:**

* Create a New Project and name it as **Lastname\_Lab08InterfacesAndAbstractClasses** where **Lastname** is your last name.
* Create a new package in the project created and name it as **jobapplication**.
* Create all the interfaces and classes given in the Javadoc.
* Go through each interface and class to know the list of instance variables and methods.
* Go through the method descriptions given in Javadoc to know the required functionality.
* Draw the UML by referring the Javadoc, for your understanding and then proceed with the code.

1. **Additional Notes for Methods in Application class:**
2. **fillApplication():** This method should provide the functionality such that it should prompt the user the following questions and set those details to the applicant.See the questions below

Enter your first name:

Enter your last name:

Enter your phone number:

Enter your email id:

Do you have any work experience:

Enter your educational qualification:

Enter your level of communication skills:

Enter your age:

[Note: The answer to the question “Do you have any work experience:” should be yes/no depending on the answer you should set the Boolean value of the instance variable. For yes it should set True, otherwise False. Input to the level of communication skills should be excellent/proficient/ knowledgeable/average/familiar and use enum to get the constant value]

1. **produceTheJobDetailsForApplicant():** This method should fill the details of the job by checking the below conditions and invoke printJobDetails() method to print them.

If the educationQualification of the applicant is masters and levelOfCommunication<=2 and age >=25 and the applicant has work experience then pass the following values to the job object

(1100,"Senior Software Engineer","Masters",openingDate,closingDate,50000,"You have to develop software solutions and supervise the team under you", supervisor)

Where openingDate is 9/16/2017, closingDate is 9/20/2017, supervisor is of type Supervisor. Pass the following values to the supervisor object ("John","Ryan","(412)520-0909","ryant@gmail.com")

If the educationQualification of the applicant is masters and levelOfCommunication is <=3 and the applicant has no work experience and age > =23 then pass the following values to the job object

(1103,"Software Engineer","Bachelors", openingDate,closingDate,50000,"You have to develop software solutions", supervisor)

Where openingDate is 8/27/2107, closingDate is 9/14/2017, supervisor is of type Supervisor. Pass the following values to the supervisor object ("Feon","Tim","(512)528-0229","timf@gmail.com")

If the educationQualification of the applicant is bachelors or masters and levelOfCommunication <=3 and age >=22 and the applicant has work experience and the applicant has work experience then pass the following values to the job object

(1200,"Back end Developing", "Bachelors", openingDate, closingDate,50000,"Have to write the code for server operations and data bases", supervisor)

Where openingDate is 9/10/2107, closingDate is 9/13/2017, supervisor is of type Supervisor. Pass the following values to the supervisor object

("William","Lee","(320)630-0980","leew@gmail.com")

If the educationQualification of the applicant is bachelors and levelOfCommunication <=3 and age > =22 and the applicant has no work experience then pass the following values to the job object

(1300,"front end","Bachelors", openingDate,closingDate,50000,"Have to write the code for front end and work with design aspects", supervisor)

Where openingDate is 9/13/2107, closingDate is 9/20/2017, supervisor is of type Supervisor. Pass the following values to the supervisor object

("David","Martin","(412)629-0129","martindav@gmail.com")

If the educationQualification of the applicant is bachelors and levelOfCommunication is 5 and age > 20 then pass the following values to the job object

(1350,"tech support","Bachelors",openingDate,closingDate,50000,"Have to collect the required documents and answer the call of customers", supervisor)

Where openingDate is 9/16/2107, closingDate is 9/20/2017, supervisor is of type Supervisor. Pass the following values to the supervisor object

("Jose","Ellizibeth","(312)448-2379","s527890@gmail.com")

If above all conditions are failed then you need to print the statement as

"Not Eligible to apply for the jobs that are currently available".

1. **backGroundCheck():** This method is used to check the back ground of the applicant by prompting the below questions

Have you ever been convicted for felony:

Are you a social worker part of criminal justice system:

Have you ever charged for traffic violations:

If answer to the any of the above questions is yes then you should return “You are not eligible to apply”, otherwise return “You are eligible to apply”.

**[Note 1: Use Scanner for taking input from keyboard]**

1. **Additional Notes for CommunicationSkill enum:**
2. You need to create the constructor for enum.
3. And you no need to create the below methods

public static [CommunicationSkill](file:///C:\\Users\\s528801\\Documents\\NetBeansProjects\\Lab08InterfacesAndAbstractClasses\\dist\\javadoc\\jobapplication\\CommunicationSkill.html" \o "enum in jobapplication)[] values()

public static [CommunicationSkill](file:///C:\\Users\\s528801\\Documents\\NetBeansProjects\\Lab08InterfacesAndAbstractClasses\\dist\\javadoc\\jobapplication\\CommunicationSkill.html" \o "enum in jobapplication) valueOf(java.lang.String name)

When you generate the **Javadoc** the above methods will be produced by default.

**Sample Output:**

|  |
| --- |
| \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Welcome to the Career Builder System  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Fill your details to know the jobs that suits your profile  Enter your first name:  Devin  Enter your last name:  Miller  Enter your phone number:  4236457890  Enter your email id:  devin@yahoo.com  Do you have any work experience:  yes  Enter your educational qualification:  masters  Enter your level of communication skills:  excellent  Enter your age:  25  Have you ever been convicted for felony:  no  Are you a social worker part of criminal justice system:  no  Have you ever charged for traffic violations:  no  You are eligible to apply for this job  The job details are as follows:  JobID: 1100  JobTitle: Senior Software Engineer  MinimumRequiredDegree: Masters  OpeningDate: Fri Nov 16 00:00:00 CST 3917  ClosingDate: Tue Nov 20 00:00:00 CST 3917  Salary: 50000.0  Responsibilities of the job includes: You have to develop software solutions and supervise the team under you  Supervisor details:  Name of the supervisor: John Ryan ( J.R )  Contact Details: ryant@gmail.com, +1((41)2)5-20-0909  The job is still open, you can apply for this job  Would you like to apply for this job  yes  Would you like to apply for another applicant  Yes  Fill your details to know the jobs that suits your profile  Enter your first name:  Sophia  Enter your last name:  Williams  Enter your phone number:  5453679009  Enter your email id:  williams@yahoo.com  Do you have any work experience:  no  Enter your educational qualification:  bachelors  Enter your level of communication skills:  proficient  Enter your age:  23  Have you ever been convicted for felony:  no  Are you a social worker part of criminal justice system:  no  Have you ever charged for traffic violations:  no  You are eligible to apply for this job  The job details are as follows:  JobID: 1300  JobTitle: Front End Designer  MinimumRequiredDegree: Bachelors  OpeningDate: Sat Oct 13 00:00:00 CDT 3917  ClosingDate: Sat Oct 20 00:00:00 CDT 3917  Salary: 50000.0  Responsibilities of the job includes: Have to write the code for front end and work with design aspects  Supervisor details:  Name of the supervisor: David Martin ( D.M )  Contact Details: martindav@gmail.com, +1((41)2)6-29-0129  The job is still open, you can apply for this job  Would you like to apply for this job  yes  Would you like to apply for another applicant  Yes  Fill your details to know the jobs that suits your profile  Enter your first name:  Ryan  Enter your last name:  Taylor  Enter your phone number:  6632678908  Enter your email id:  taylorr@gmail.com  Do you have any work experience:  no  Enter your educational qualification:  bachelors  Enter your level of communication skills:  familiar  Enter your age:  23  Have you ever been convicted for felony:  no  Are you a social worker part of criminal justice system:  no  Have you ever charged for traffic violations:  no  You are eligible to apply for this job  The job details are as follows:  JobID: 1350  JobTitle: Technical Support Associate  MinimumRequiredDegree: Bachelors  OpeningDate: Fri Nov 16 00:00:00 CST 3917  ClosingDate: Tue Nov 20 00:00:00 CST 3917  Salary: 50000.0  Responsibilities of the job includes: Have to collect the required documents and answer the call of customers  Supervisor details:  Name of the supervisor: Jose Ellizibeth ( J.E )  Contact Details: s527890@gmail.com, +1((31)2)4-48-2379  The job is still open, you can apply for this job  Would you like to apply for this job  no  Would you like to apply for another applicant  No  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Here is the list of applications you created  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Applicant Details  Name of the applicant: Miller, Devin  Contact Details: devin@yahoo.com, +1(423)645-7890  EducationQualification of the applicant: masters  The details of job the applicant applied for  JobID: 1100  JobTitle: Senior Software Engineer  MinimumRequiredDegree: Masters  OpeningDate: Fri Nov 16 00:00:00 CST 3917  ClosingDate: Tue Nov 20 00:00:00 CST 3917  Salary: 50000.0  Responsibilities of the job includes: You have develop software solutions and supervise the team under you  Supervisor details:  Name of the supervisor: John Ryan ( J.R )  Contact Details: ryant@gmail.com, +1((41)2)5-20-0909  Details of supervisor for this job:  Name of the supervisor: John Ryan ( J.R )  Contact Details: ryant@gmail.com, +1((41)2)5-20-0909  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Applicant Details  Name of the applicant: Williams, Sophia  Contact Details: williams@yahoo.com, +1(545)367-9009  EducationQualification of the applicant: bachelors  The details of job the applicant applied for  JobID: 1300  JobTitle: Front End Designer  MinimumRequiredDegree: Bachelors  OpeningDate: Sat Oct 13 00:00:00 CDT 3917  ClosingDate: Sat Oct 20 00:00:00 CDT 3917  Salary: 50000.0  Responsibilities of the job includes: Have to write the code for front end and work with design aspects  Supervisor details:  Name of the supervisor: David Martin ( D.M )  Contact Details: martindav@gmail.com, +1((41)2)6-29-0129  Details of supervisor for this job:  Name of the supervisor: David Martin ( D.M )  Contact Details: martindav@gmail.com, +1((41)2)6-29-0129  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  BUILD SUCCESSFUL (total time: 2 minutes 40 seconds) |

**Submit your solution by following the steps below:**

* Save your files in **NetBeans**.
* Zip your entire Project. (It should be called ***Lastname*\_Lab08InterfacesAndAbstractClasses.zip** where **Last name** is your last name.)
* Submit the Zip file to the **Lab08InterfacesAndAbstractClasses** drop box.
* Download the Zip file you have submitted.
* Look in the Zip file and verify the class files in the Zip folder are correct. If not resave your project in **NetBeans** and resubmit.