

# North South University



## Assignment

Topic: Custom Exception

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Course: CSE 215

Section: 08

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## **Abstract:**

World's popular giant tech company "Google" have published their recruitment event for Senior Software Engineer in Cloud Computing. The company has set the minimum qualification to verify the applicants. To find out real applicants, they have to make an application management system which can detect exceptions in the application of participants. If there occurred any exception during the registration, the program will monitor and handle the exception, for further process. Based on that, it will say the application status of the applicant. The company has set some minimum qualification to verify the applicants.

## **Methodology:**

Custom Exception Handling in the system are:

### **1. ExpertiseException**

If the applicant does not have any expertise in Software Development, Data Structure and Algorithm, and Technical Leadership, then it will generate this exception.

### **2. AcademicQualificationException**

If the applicant does not have complete their Degree in Bachelors, Masters or PhD and the Graduation, Expected Graduation, or PhD complete year is 2023 or before that, then this exception will occur.

### **3. ExperienceException**

If the applicant does not have the particular year of experience in the field, then this exception will occur.

### **4. AgeException**

The Applicant need to be an adult. If the applicants age is below 18 years, then this exception will occur.

### **5. EnglishFluncyException**

Applicant need to be fluent in English. If the applicant is not fluent in English, then this exception will occur.

## **Source Code:**

```
package javaexceptionproject;
import java.util.Scanner;

class AcademicQualificationException extends Exception {
    public AcademicQualificationException(String str) {
        super(str);
    }
}

class ExpertiseException extends Exception {
    public ExpertiseException(String str) {
        super(str);
    }
}

class AgeException extends Exception {
    public AgeException(String str) {
        super(str);
    }
}

class ExperienceException extends Exception {
    public ExperienceException(String str) {
        super(str);
    }
}

class EnglishFluencyException extends Exception {
    public EnglishFluencyException (String str) {
        super(str);
    }
}

public class SeniorSoftwareEngineerRecruitment {

    static void age(int a) throws AgeException {
```

```
        if(a<18) {
            throw new AgeException("Applicant's age need to be over
18 years old.");
        } else
            System.out.println("Applicant's age is eligible for
registration ");
    }
```

```
static void fluency(String l) throws EnglishFluencyException {
    String s="English";
    if(s.equals(l))
        System.out.println("Applicant's communication fluency is
eligible for registration.");
}
```

```
    else
        throw new EnglishFluencyException("Applicant need to be
fluent in English");
}
```

```
static void academicDegree(String degree, int year) throws
AcademicQualificationException {
    String d1="Bachelors";
    String d2="Masters";
    String d3="PhD";
```

```
    if((d1.equals(degree) || d2.equals(degree) ||
d3.equals(degree))&& year<=2023)
        System.out.println("Applicant's Academic Degree is eligible
for registration ");
```

```
    else
        throw new AcademicQualificationException("Applicant's
Academic Degree is not eligible for registration");
}
```

```
static void expertise(String st1, String st2,String st3) throws
ExpertiseException {
    String p1="Software Development";
```

```
String p2="Data Structure and Algorithm" ;  
String p3="Technical Leadership";
```

```
if(p1.equals(st1) && p2.equals(st2) && p3.equals(st3)) {  
    System.out.println("Applicant's Experties are eligible for  
registration");  
}
```

```
else  
    throw new ExpertiseException("Applicant's Experties are  
not eligible for registration ");  
}
```

```
static void experience(int e1, int e2, int e3) throws  
ExperienceException {
```

```
    if(e1<5 || e2<3 || e3<1) {  
        throw new ExperienceException(" Applicant's Experiences  
are not eligible for registration");  
    } else  
        System.out.println("Applicant's Experiences is eligible for  
registration");  
}
```

```
public static void main(String args[]) {
```

```
    System.out.println("\t\t\tSenior Software Engineer  
Recruitment @Google");
```

```
    System.out.println("Applicant must need to enter valid  
information.\n(For giving any type of wrong information an  
exception will occured and the application will be rejected)\n");
```

```
    Scanner input=new Scanner(System.in);
```

```
    System.out.println("1. Professional Expertise: ");  
    System.out.print("i.");
```

```
String st1 = input.nextLine();
System.out.print("ii.");
String st2 = input.nextLine();
System.out.print("iii.");
String st3 = input.nextLine();
```

```
System.out.print("\n2. Educationcal Degeree: ");
String degree= input.nextLine();
```

```
System.out.print("\n3.Graduation year/Expected Graduation
Year/PhD: ");
int year= input.nextInt();
```

```
System.out.print("\n4. Experience in Software Development:
");
int e1= input.nextInt();
```

```
System.out.print("5. Experience in Data Structure and
Algorithm: ");
int e2 = input.nextInt();
```

```
System.out.print("6. Experience in Technical Leadership: ");
int e3= input.nextInt();
```

```
System.out.print("\n7. Applicant age: ");
int a = input.nextInt();
```

```
System.out.print("\n8. Language Expertise: ");
String l = input.next();
```

```
boolean as= false;
System.out.println("\n\n");
```

```
try {
```

```

        expertise(st1, st2, st3);
    } catch (ExpertiseException e) {
        as=true;
        System.out.println(e);
    }

    try {
        academicDegree(degree, year);
    } catch (AcademicQualificationException e) {
        as =true;
        System.out.println(e);
    }

    try {
        experience(e1,e2,e3);
    } catch (ExperienceException e) {
        as=true;
        System.out.println(e);
    }

    try {
        age(a);
    } catch (AgeException e) {
        as=true;
        System.out.println(e);
    }

    try {
        fluency(l);
    } catch (EnglishFluencyException e) {
        as=true;
        System.out.println(e);
    }

    finally {
        if(as==true) {
            System.out.println("\nApplication Satus: Rejected");
        } else {

```

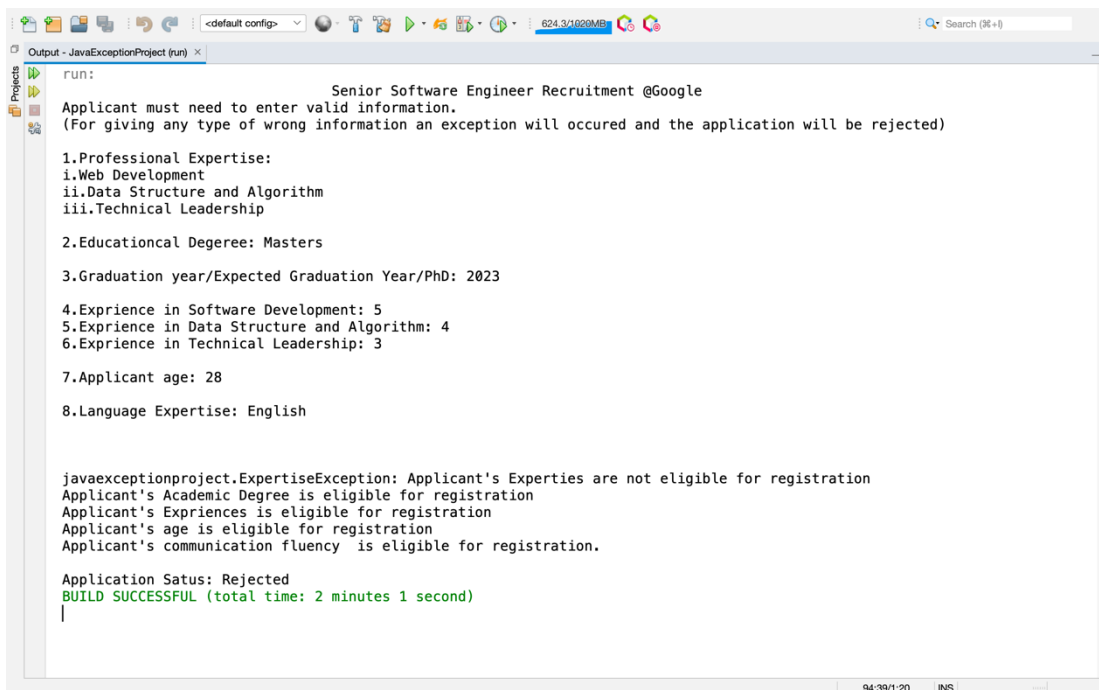
```
System.out.println("\nApplication Status: Accepted");
```

```
    }  
}
```

```
}
```

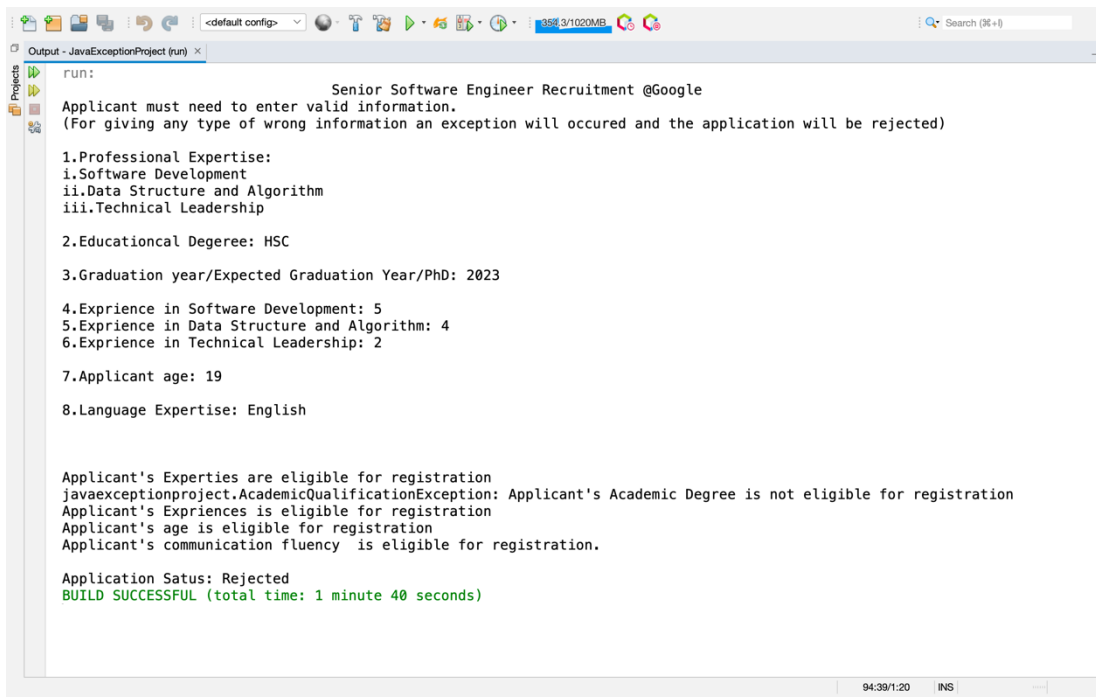
```
}
```

## Screenshots:



Screenshot 1: ExpertiseException





```
run:
    Senior Software Engineer Recruitment @Google
Applicant must need to enter valid information.
(For giving any type of wrong information an exception will occurred and the application will be rejected)

1. Professional Expertise:
i. Software Development
ii. Data Structure and Algorithm
iii. Technical Leadership

2. Educational Degree: HSC

3. Graduation year/Expected Graduation Year/PhD: 2023

4. Experience in Software Development: 5
5. Experience in Data Structure and Algorithm: 4
6. Experience in Technical Leadership: 2

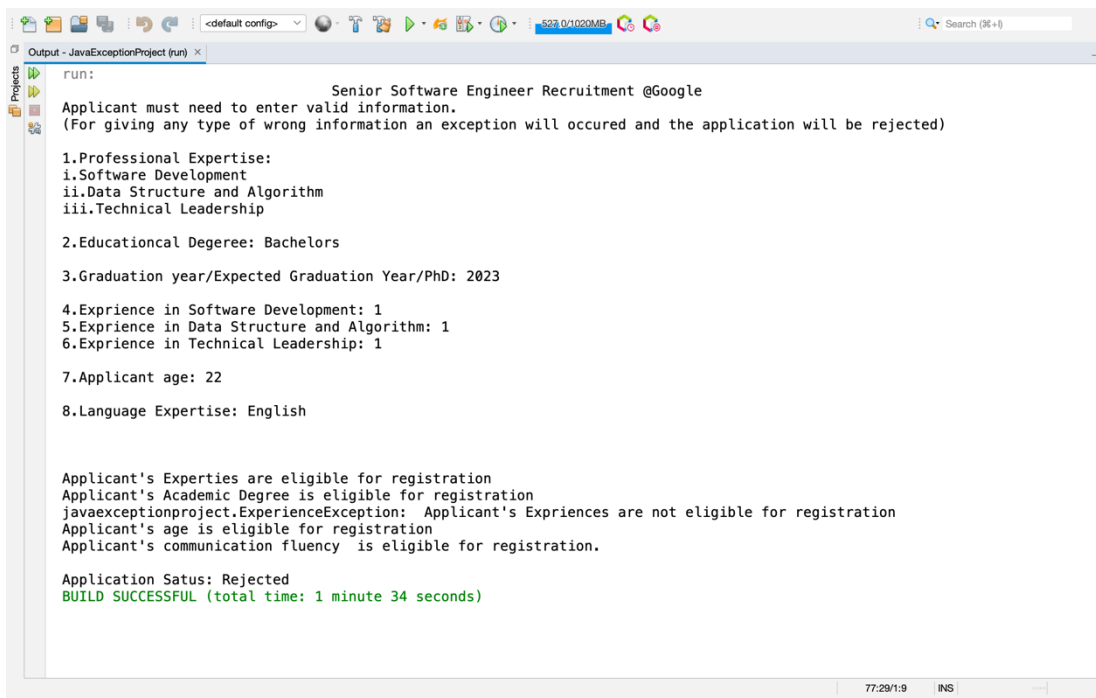
7. Applicant age: 19

8. Language Expertise: English

Applicant's Expertise are eligible for registration
javaexceptionproject.AcademicQualificationException: Applicant's Academic Degree is not eligible for registration
Applicant's Experiences is eligible for registration
Applicant's age is eligible for registration
Applicant's communication fluency is eligible for registration.

Application Status: Rejected
BUILD SUCCESSFUL (total time: 1 minute 40 seconds)
```

Screenshot 2: AcademicQualificationException



```
run:
    Senior Software Engineer Recruitment @Google
Applicant must need to enter valid information.
(For giving any type of wrong information an exception will occurred and the application will be rejected)

1. Professional Expertise:
i. Software Development
ii. Data Structure and Algorithm
iii. Technical Leadership

2. Educational Degree: Bachelors

3. Graduation year/Expected Graduation Year/PhD: 2023

4. Experience in Software Development: 1
5. Experience in Data Structure and Algorithm: 1
6. Experience in Technical Leadership: 1

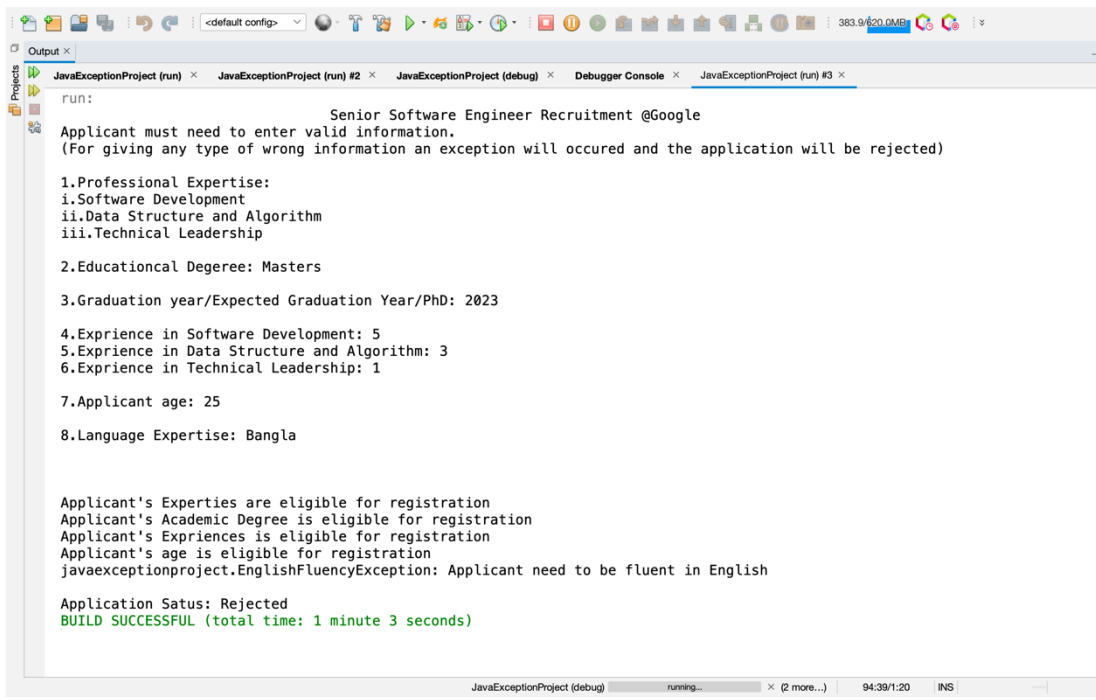
7. Applicant age: 22

8. Language Expertise: English

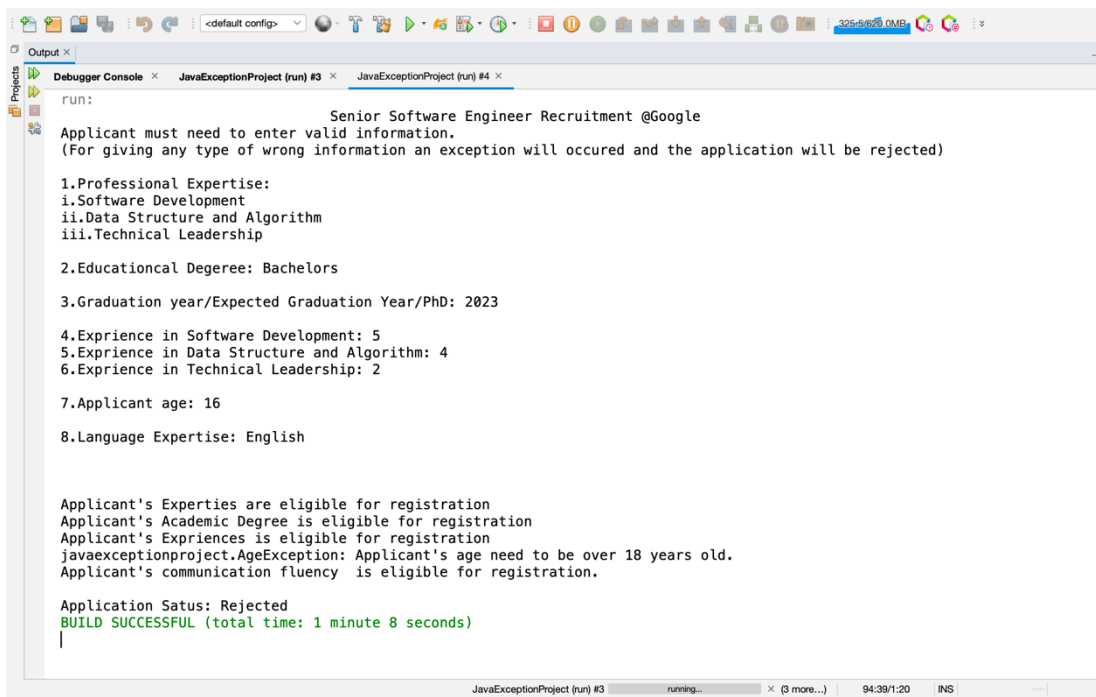
Applicant's Expertise are eligible for registration
Applicant's Academic Degree is eligible for registration
javaexceptionproject.ExperienceException: Applicant's Experiences are not eligible for registration
Applicant's age is eligible for registration
Applicant's communication fluency is eligible for registration.

Application Status: Rejected
BUILD SUCCESSFUL (total time: 1 minute 34 seconds)
```

Screenshot 3: ExperienceException



Screenshot 4: EnglishFluncyException



Screenshot 5: AgeException

# Flowchart:

