Q3

Complete the classes using the Specifications given below. Consider default visibility of classes, data fields, and methods unless mentioned otherwise.

**Specifications**

class definitions:﻿

class Problem:

data members:

int credits

String type

Problem(int credits, String type): constructor **with** **public** visibility

**class** Checker:

method definitions:

checkProblem(Problem p) throws **Exception**:

**return** **type**: **String**

visibility: **public**

﻿

approveProblem(Problem p):

**return** **type**: **String**

visibility: **public**

﻿

**class** ProblemException:

method definitions:

ProblemException(**String** msg)

visibility: **public** ﻿

**Task**

Class **Problem**

**-**define the **int**variable **credits and string variable type.**

**-**define a **constructor** according to the above specifications.

Class **Checker**

**Implement the below methods for this class:**

**-String** **checkProblem(Problem p) throws Exception:**

* Write a code to validate the criteria for approving the problem.
* **throw a ProblemException**if credits of the problem are less than 10 with a message "**Insufficient credits".**
* **throw a ProblemException**if the type of the problem is **"String"** with a message "**String problem found".**
* **throw a ProblemException**if the type of the problem is **"Generic"** with a message "**Generic problem found".**
* **throw a ProblemException**if the type of the problem is **"I/O"** with a message "**I/O problem found".**
* else return "**Exception problem found**".

**-String approveProblem(Problem p):**

* Write a code that approves the problem.
* If **checkProblem**method throws a **ProblemException**then returns a message "**Not approved**".(Use try-catch block)
* If it throws any other exception then return a message "**Other exception**".
* If no exception is found then return a message "**Problem approved**".

**Sample Input**

Problem p=**new** Problem(41,"Exception");

Checker c=**new** Checker();

String s = c.checkProblem(p);

String t=c.approveProblem(p);

**Sample Output**

exception problem found

problem approved

**NOTE:**

* You can make suitable function calls and use **the RUN CODE** button to check your **main()** method output.

**ALLOWED TECHNOLOGIES**

* Java 8

**TAGS**

* Exceptions
* Exceptional Handling

**Code :**

//DOSELECT Problem Statement 3

//Class Problem

**package** CAPG;

**public** **class** Problem {

**int** credits;

String Type;

**public** Problem(**int** credits, String type) {

**super**();

**this**.credits = credits;

Type = type;

}

}

//DOSELECT Problem Statement 3

//Class Checker

**package** CAPG;

**public** **class** Checker {

**public** String checkProblem(Problem p) **throws** Exception{

**if**(p.credits < 10) {

**throw** **new** ProblemException("Insufficient credits");

}

**else** **if**(p.Type.equals("String")) {

**throw** **new** ProblemException("String problem found");

}

**else** **if**(p.Type.equals("Generic")) {

**throw** **new** ProblemException("Generic problem found");

}

**else** **if**(p.Type.equals("I/O")) {

**throw** **new** ProblemException("I/O problem found");

}

**else** {

**return** "Exception problem found";

}

}

**public** String approveProblem(Problem p) {

**try**{

checkProblem(p);

}

**catch**(ProblemException p1){

**return** "Not approved";

}

**catch**(Exception e){

**return** "Other exception";

}

**return** "Problem approved";

}

}

//DOSELECT Problem Statement 3

//Class ProblemException

**package** CAPG;

**public** **class** ProblemException **extends** Exception {

**public** ProblemException(String mesaage) {

**super**(mesaage);

}

}

//DOSELECT Problem Statement 3

//Class Main

**package** CAPG;

**public** **class** Problem\_Main {

**public** **static** **void** main(String[] args) **throws** Exception{

Problem p1 = **new** Problem(41,"Exception");

Checker c1= **new** Checker();

String s= c1.checkProblem(p1);

String s2= c1.approveProblem(p1);

System.***out***.println(s);

System.***out***.println(s2);

}

}

**Output :**

