

JA111 Assignment Day 16

Q1) A student portal allows users to register their profile. During registration the system needs to validate the user should be located in India. If not, the system should throw an exception.

Step 1: Create a user defined exception class named “InvalidCountryException”.

Step 2: Overload the respective constructors.

Step 3: Create a main class “UserRegistration”, add the following method,

registerUser– The parameter are String username,String userCountry and add the following logic:

- if userCountry is not equal to “India” throw a InvalidCountryException with the message “User Outside India cannot be registered”
- if userCountry is equal to “India”, print the message “User registration done successfully”

Note : Take the input from user using Scanner

Invoke the method registerUser from the main method with the data specified and see how the program behaves.

Sample Input 1:

```
Enter Your Name:
Sam
Enter Your Country:
India
```

Sample Output 1:

```
User registration done successfully
```

Sample Input 2:

```
Enter Your Name:
Mickey
Enter Your Country:
US
```

Sample Output 2:

```
User Outside India cannot be registered
```

Q2)Write a program that accepts 2 integers a and b as input and finds the quotient of a/b. This program may generate an Arithmetic Exception. Use exception handling mechanisms to handle this exception. In the catch block, print the message as shown in the sample output. Also illustrate the use of finally block. Print the message “Inside finally block”.

Sample Input and Output 1:

```
Enter the 2 numbers 5 2
The quotient of 5/2 = 2
Inside finally block
```

Sample Input and Output 2:

```
Enter the 2 numbers 5 0
DivideByZeroException caught
Inside finally block
```

Q3) Create a user-defined checked exception called `InsufficientFundsException`.

Create a class called `Account` with 2 fields:

```
accountNumber: String  
balance: double
```

and define the following 2 methods inside the `Account` class:

```
deposit(amount): void  
withdraw(amount): double
```

Create an `AccountDemo` class with the main method and perform the following task:

Create the `Account` class object by passing the Account number.

You can deposit the amount into that account by invoking the `deposit()` method by passing the deposit amount as an argument.

If you have a balance in your account, you have to withdraw the amount by invoking the `withdraw()` method by passing a suitable amount as an argument. But, if your requested amount is more than the available balance, you have to generate the “`InsufficientFundException`” object and the same have to be thrown to the caller (with the suitable message).

Note: make sure the application should be terminated normally.

Q4) Explain the difference between Checked and Unchecked exception?