Write a java program to raise built-in exceptions and raise them as per the requirements

Code:

**public** **class** ExceptionExample {

// Method to raise NullPointerException

**public** **static** **void** raiseNullPointerException() {

String str = **null**;

**try** {

// Trying to access a method on a null object

System.***out***.println(str.length());

} **catch** (NullPointerException e) {

// Handling the NullPointerException

System.***out***.println("NullPointerException caught: " + e.getMessage());

}

}

// Method to raise ArrayIndexOutOfBoundsException

**public** **static** **void** raiseArrayIndexOutOfBoundsException() {

**int**[] arr = {1, 2, 3};

**try** {

// Accessing an index beyond the array's bounds

System.***out***.println(arr[3]);

} **catch** (ArrayIndexOutOfBoundsException e) {

// Handling the ArrayIndexOutOfBoundsException

System.***out***.println("ArrayIndexOutOfBoundsException caught: " + e.getMessage());

}

}

// Method to raise ArithmeticException

**public** **static** **void** raiseArithmeticException() {

**try** {

// Performing division by zero

**int** result = 10 / 0;

System.***out***.println("Result: " + result);

} **catch** (ArithmeticException e) {

// Handling the ArithmeticException

System.***out***.println("ArithmeticException caught: " + e.getMessage());

}

}

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

// Example usage

*raiseNullPointerException*();

*raiseArrayIndexOutOfBoundsException*();

*raiseArithmeticException*();

}

}

Output:

NullPointerException caught: Cannot invoke "String.length()" because "str" is null

ArrayIndexOutOfBoundsException caught: Index 3 out of bounds for length 3

ArithmeticException caught: / by zero

Write a java program to define user defined exceptions and raise them as per the requirements

Code:

**package** com.siyaram;

//Custom exception class

**class** CustomException **extends** Exception {

// Constructor

**public** CustomException(String message) {

**super**(message);

}

}

//Class that uses the custom exception

**class** AgeValidator {

// Method to validate age

**public** **void** validateAge(**int** age) **throws** CustomException {

// Checking if age is negative

**if** (age < 0) {

// If age is negative, throwing the custom exception

**throw** **new** CustomException("Age cannot be negative.");

}

// Checking if age is less than 18

**if** (age < 18) {

// If age is less than 18, throwing the custom exception

**throw** **new** CustomException("Age must be at least 18 years.");

}

// If age is valid, print a message

System.***out***.println("Age is valid.");

}

}

//Main class

**public** **class** Main {

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

// Creating an instance of AgeValidator

AgeValidator validator = **new** AgeValidator();

**try** {

// Trying to validate age

validator.validateAge(20); // Valid age

validator.validateAge(-5); // Invalid age (negative)

validator.validateAge(15); // Invalid age (less than 18)

} **catch** (CustomException e) {

// Handling the custom exception

System.***out***.println("CustomException caught: " + e.getMessage());

}

}

}

Output:

Age is valid.

CustomException caught: Age cannot be negative.