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# Exceptions (Solutions)

## Questions

1. In computing, what is an exception?
   * A compilation error.
   * When a program user requires a special accommodation.
   * When a behaviour not supposed to happen occurs during execution.
   * A keyword.
2. When a program meets an unexpected behaviour, we say that it…
   * … *raises* an exception.
   * … *throws* an exception.
   * All of the above.
3. An exception can occur when…
   * … a user enters for example the string “Test” when asked for a numerical value.
   * … a division by 0 occurs.
   * … the program tries to access an array outside of its index range.
   * All of the above.
4. A try-catch block…
   * … executes all the code inside its try block, then all its code inside its catch block.
   * … executes all the code inside its try block, then all its code inside its catch block if an exception was raised at any point.
   * … executes only if an exception was raised in the program before.
   * … executes the code inside its try block, and switches to its catch block if an exception was thrown.
   * … executes its catch block first, and then its try block if an exception was raised.
5. A try-catch-finally block…
   * … can have multiple catch block.
   * … can omit the finally block.
   * … can omit the catch block.
   * All of the above.

## Warm-up Exercise

1. Consider the following code:

* using System;  
    
  class Program  
  {  
   static void Main()  
   {  
   try  
   {  
   Console.WriteLine("Enter a number");  
   int uInput = int.Parse(Console.ReadLine());  
   int[] t = { 10 };  
   int div = 0 / (uInput -1);  
   int tAcces = t[uInput];  
   }  
   catch (IndexOutOfRangeException)  
   {  
   Console.WriteLine("IndexOutOfRangeException");  
   }  
   catch (DivideByZeroException)  
   {  
   Console.WriteLine("DivideByZeroException");  
   }  
   catch (FormatException)  
   {  
   Console.WriteLine("FormatException");  
   }  
   catch (ArgumentNullException)  
   {  
   Console.WriteLine("ArgumentNullException");  
   }  
   }  
  }
* [*(Download this code)*](https:/princomp.github.io/code/projects/TriggeringExceptions.zip)
  + Determine which input would the user needs to enter to get “IndexOutOfRangeException”, “DivideByZeroException”, “FormatException” and “ArgumentNullException” displayed.
  + Is there something the user could enter that would *not* raise any exception?

Solution

| Exception | Input |
| --- | --- |
| “IndexOutOfRangeException” | Any number greater than 2. |
| “DivideByZeroException” | 1 |
| “FormatException” | Any string that is not a number (for example, “Test”) |
| “ArgumentNullException” | A null string (ctrl + d on linux, ctrl + z on windows) |

Entering 0 would not raise any exception.