# Department of Electrical Engineering

**CS212: Object Oriented Programming**

**Class: BSEE – CD**

# Lab 14: Exceptions

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# Exception Handling

One of the advantages of C++ over C is Exception Handling. Exceptions are run-time anomalies or abnormal conditions that a program encounters during its execution. There are two types of exceptions: a)Synchronous, b)Asynchronous(Ex:which are beyond the program’s control, Disc failure etc). C++ provides following specialized keywords for this purpose.

*try*: represents a block of code that can throw an exception.

*catch*: represents a block of code that is executed when a particular exception is thrown.

*throw*: Used to throw an exception. Also used to list the exceptions that a function throws, but doesn’t handle itself.

**Task 1:**

**Following is a simple example to show exception handling in C++. The output of program explains flow of execution of try/catch blocks. Show the output of the following program**

#include <iostream>

**using** **namespace** std;

**int** main()

{

**int** x = -1;

   // Some code

   cout << "Before try \n";

**try** {

      cout << "Inside try \n";

**if** (x < 0)

      {

**throw** x;

         cout << "After throw (Never executed) \n";

      }

   }

**catch** (**int** x ) {

      cout << "Exception Caught \n";

   }

   cout << "After catch (Will be executed) \n";

**return** 0;

}

**Task 2:**

There is a special catch block called ‘catch all’ catch(…) that can be used to catch all types of exceptions. For example, in the following program, an int is thrown as an exception, but there is no catch block for int, so catch(…) block will be executed.(show the output)

#include <iostream>

**using** **namespace** std;

**int** main()

{

**try**  {

**throw** 10;

    }

**catch** (**char** \*excp)  {

        cout << "Caught " << excp;

    }

**catch** (...)  {

        cout << "Default Exception\n";

    }

**return** 0;

}

**Task 3:**

Find error and mention in comment.

|  |
| --- |
| #include <iostream>  **using** **namespace** std;    **int** main()  {  **try**  {  **throw** 'a';      }  **catch** (**int** x)  {          cout << "Caught " << a;      }  **catch** (x,a)  {          cout << "Default Exception\n";      }  **return** 1;  }  **Task 4:** |

Is it possible to keep other statements in between ‘try’, ‘catch’, and ‘finally’ blocks?