

CSC 270 – Survey of Programming Languages

C++ Lecture 6 – Exceptions

ExceptionDemo.cpp

```
#include <iostream>
#include <string>

using namespace std;

class NegativeNumber {
public:
    NegativeNumber(void) {}
    NegativeNumber(string theMessage)
        : message(theMessage) {}
    string getMessage() const {return message; }
private:
    string message;
};
```

```
class DivideByZero {};  
  
int main(void)  
{  
    int pencils, erasers;  
    double ppe; //pencils per eraser  
  
    try {  
        cout << "How many pencils do you"  
              << " have?\n";  
        cin >> pencils;  
        if (pencils < 0)  
            throw NegativeNumber("pencils");  
    }
```

```
        cout << "How many erasers do you"  
              << " have?\n";  
        cin >> erasers;  
        if (erasers < 0)  
            throw NegativeNumber("erasers");  
        if (erasers != 0)  
            ppe = pencils / (double) erasers;  
        else  
            throw DivideByZero();  
  
        cout << "Each eraser must last through "  
              << ppe << " pencils." << endl;  
    }
```

```
catch(NegativeNumber e) {
    cout
    << "Cannot have a negative number of "
    << e.getMessage() << endl;
}
catch(DivideByZero) {
    cout << "Do not make any mistakes!"
    << endl;
}

cout << "End of program." << endl;
return(0);
```