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1 /*****
2  * AUTHOR          : Nick Reardon
3  * Assignment #5   : Binary Trees
4  * CLASS           : CS1D
5  * SECTION         : MW - 2:30p
6  * DUE DATE        : 02 / 19 / 20
7  *****/
8 #ifndef _EXCEPT_H_
9 #define _EXCEPT_H_
10
11 #include <string>
12 #include <exception>
13 #include <sstream>
14
15 /**
16  * @class Except_runtime_error_class Except_runtime_error_class.h
17  * Except_runtime_error_class.h
18  *
19  * @brief Generic Exception class with basic output setup
20  *
21  * @author Nick Reardon
22  * @date 12/09/2020
23  */
24 class Except_runtime_error_class : virtual public std::runtime_error {
25 protected:
26
27     int error_number;          ///< Error number
28     int error_offset;          ///< Error offset
29
30 public:
31
32     /**
33     * @fn explicit Except_runtime_error_class::Except_runtime_error_class(const
34     * std::string& msg, int err_num, int err_off)
35     * : std::runtime_error(msg)
36     *
37     * @brief Constructor
38     *
39     * @param msg The error message.
40     * @param err_num Error number.
41     * @param err_off Error offset.
42     */
43     explicit
44     Except_runtime_error_class(const std::string& msg, int err_num, int err_off) :
45     std::runtime_error(msg)
46     {
47         error_number = err_num;
48         error_offset = err_off;
49     }
50
51     /** Destructor.
52     * Virtual to allow for subclassing.
53     */
54     virtual ~Except_runtime_error_class() throw () {}
55
56     /** Returns error number.
57     * @return #error_number

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57     */
58     virtual int getErrorNumber() const throw() {
59         return error_number;
60     }
61
62     /**Returns error offset.
63     * @return #error_offset
64     */
65     virtual int getErrorOffset() const throw() {
66         return error_offset;
67     }
68
69     virtual void outputError(std::ostream& output) const throw()
70     {
71         output << "Exception - Error number " << error_number
72             << ":" << std::string(error_offset, ' ') << what() << '\n';
73     }
74
75 };
76
77
78 #endif // !_EXCEPT_H_

```