

```
1 *****
2 *   PROGRAMMED BY : Carlos Aguilera
3 *   CLASS          : CS1B
4 *   SECTION        : MW: 7:30p - 9:50p
5 *   LAB #2         : Extra Credit Enum
6 *****
7
8 What day is today? Monday
9 Today is MONDAY !
10
11 What day is today? Tuesday
12 Today is TUESDAY !
13
14 What day is today? Wednesday
15 Today is WEDNESDAY !
16
17 What day is today? Thursday
18 Today is THURSDAY !
19
20 What day is today? Friday
21 Today is FRIDAY !
22
23 What day is today? Saturday
24 Today is SATURDAY !
25
26 What day is today? Sunday
27 Today is SUNDAY !
28
29 What day is today? no day
30 ***** Invalid day input *****
31
32 Today is INVALID !
```

```
1 #pragma once
2 #include <iostream>
3 #include <string>
4 #include <iomanip>
5
6 enum Days {SUNDAY, MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, SATURDAY};
7
8 void displayHeader();
9 int convertEnum(const std::string &inputDay); //converts day string input to
    element associated with days type
10 std::string convertString(const int enumIndex, const std::string
    days[]); //takes placement conversion by convertEnum and uses it as index for
    what string to return
```

```

1 #include "main.h"
2 /*****
3  * Title: Extra Credit Enum
4  * -----
5  * This program takes a string from the user (what day of the week)
6  * and converts it to a Days type and then converts that Days type back to
7  * a string and outputs whether invalid or valid
8  * -----
9  * Data Table
10 * -----
11 * std::string strDays[7] OUT & CALC - holds days of the week
12 * bool invalid {false} CALC - repeats while loop until invalid equals true
13 * std::string inputDay {}; IN - takes input from user of what day it is
14 *****/
15
16
17 int main()
18 {
19     displayHeader();
20     std::string strDays[7]
21 {"SUNDAY", "MONDAY", "TUESDAY", "WEDNESDAY", "THURSDAY", "FRIDAY", "SATURDAY"};
22     bool invalid {false};
23     std::string inputDay {};
24
25     do
26     {
27         std::cout << "What day is today? ";
28         std::cin >> inputDay;
29
30         if(convertString(convertEnum(inputDay), strDays) != "INVALID") //if
the calling functions return "INVALID" then else statements run
31             std::cout << "Today is " << convertString(convertEnum(inputDay),
strDays) << " !\n\n";
32         else {
33             std::cout << "***** Invalid day input *****\n\n";
34             std::cout << "Today is " << convertString(convertEnum(inputDay),
strDays) << " !\n\n";
35             invalid = true;
36         }
37     } while (!invalid); //while invalid does not equal true
38
39 }

```

```

1 #include "main.h"
2
3 void displayHeader()
4 {
5     /**
6      * CONSTANTS
7      * -----
8      * OUTPUT - USED FOR CLASS HEADING
9      * -----
10     * PROGRAMMER : Programmer's Name
11     * CLASS      : Student's Course
12     * SECTION    : Class Days and Times
13     * LAB_NUM    : Lab Number (specific to this lab)
14     * LAB_NAME   : Title of the Lab
15     *****/
16     const char PROGRAMMER[] = "Carlos Aguilera";
17     const char CLASS[]      = "CS1B";
18     const char SECTION[]    = "MW: 7:30p - 9:50p";
19     const int LAB_NUM       = 2;
20     const char LAB_NAME[]   = "Extra Credit Enum";
21
22     // (variable declarations go here)
23
24
25     /**
26      * OUTPUT - Class Heading
27      * *****/
28     std::cout << std::left;
29     std::cout << "*****\n";
30     std::cout << "*   PROGRAMMED BY : " << PROGRAMMER << std::endl;
31     std::cout << "*   " << std::setw(14) << "CLASS" << ": " << CLASS <<
std::endl;
32     std::cout << "*   " << std::setw(14) << "SECTION" << ": " << SECTION <<
std::endl;
33     std::cout << "*   LAB #" << std::setw(9) << LAB_NUM << ": " << LAB_NAME <<
std::endl;
34     std::cout << "*****\n\n";
35     std::cout << std::right;
36 }

```

```

1 #include "main.h"
2 /*****
3  * Title: convertEnum
4  * -----
5  * FUNCTION:
6  * This function takes inputDay and the string array as args
7  * then uses a switch statement to determine what day it is
8  * and returns index of the day in the
9  * -----
10 * Data Table
11 * -----
12 * const int failState {-1} CALC - used to understand why return -1 works
13 *****/
14
15 int convertEnum(const std::string &inputDay)
16 {
17     Days today;
18     const int failState {-1};
19
20     switch(toupper(inputDay[0]))//using toupper method to caps first letter
    and use that for the expression of the switch statement
21     {
22         case 'S': {
23             if(toupper(inputDay[1]) == 'U')
24                 today = SUNDAY;
25             else
26                 today = SATURDAY;
27             break;
28         }
29         case 'M':
30             today = MONDAY;
31             break;
32         case 'T': {
33             if(toupper(inputDay[1]) == 'U')
34                 today = TUESDAY;
35             else
36                 today = THURSDAY;
37             break;
38         }
39         case 'W':
40             today = WEDNESDAY;
41             break;
42         case 'F':
43             today = FRIDAY;
44             break;
45         default:
46             return failState;//means fail state
47     }
48     return today;
49 }
50 }

```

```
1 #include "main.h"
2 /*****
3  * Title: convertString
4  * -----
5  * FUNCTION:
6  *   Takes enum index and uses it to indicate index on the string
7  * -----
8  * No Data Table
9  * -----
10 *****/
11
12 std::string convertString(const int enumIndex, const std::string days[])
13 {
14     if(enumIndex != -1)
15         return days[enumIndex];
16     else
17         return "INVALID";
18 }
```