Week 9
Review Questions

```
32.     for ( int i = 0; i < 10, i++) {
             for ( ndx = 0; ndx < 15; ndx++) {
                  Cout << "#";
             }
             cout << "\n";
        }


33.     char doAgain = 'y';
        int sum = 0;

        cout << "This code will increment sum 1 or more times. \n";
        do {
             sum++;
             cout << "Sum has been incremented. Increment it again (y/n)? ";
             cin >> doAgain;
        } while ((doAgain = 'Y') || (doAgain = 'y'));

        cout << "Sum was incremented " << sum << " times.\n";
```

Programming Challenges
Student Line Up

```
/*      Chapter No. 5 - Exercise No.15
        File Name: StudentLineUp.cpp
        Programmer: Chris Adkins
        Date Last Modified:
        CS 150 - Thursday 5:30PM

        Problem Statement:
        This program takes a list of names and displays a
        certain number of the based on the user's input.


        Overall Plan:
        1. Use ifstream to read in a txt file with the names.
        2. get input from the user to decide how many names to read.
        3. use the user input in the for loop.
        4. print one name per loop.

        Classes Needed and Purpose:
        iostream for user input and output.
        ifstream to read files into the program.
*/

#include <iostream>
#include <fstream>
using namespace std;

int main() {
        ifstream file("names.txt");
        string name;
        int userInput;

         do {
             cout << "How many kids are in the class?(1-20) ";
             cin >> userInput;
         } while (userInput < 0 || userInput > 20);

        for (int i = 0; i < userInput; i++) {
             file >> name;
             cout << name << "\n";
```

```
        }
        file.close();
}
```

```
/*      Serendipity Book Sellers Part 5
        File Name:MainMenu.cpp
        Programmer: Chris Adkins
        Date Last Modified: 10/23/2019
        CS 150 - Thursday 5:30PM

        Problem Statement:
        This program displays a main menu with
        the ability to show several other sub menus.
        As of right now there is some small logic
        used in order to allow the user to see every
        different menu but no functionality beyond
        that has been implemented yet aside from the cashier module.
        I have also added some input validation to check
        to see if the user enters a number outside the given parameters.


        Overall Plan:
        1. Display the main menu to the user.
        2. Check the users input to determine what to show next.
        3. Display the proper menu in regards to the user's input using switch statements.
        4. use while loops to validate the user's input.
*/

#include <iostream>
#include  <iomanip>
#include    <string>
using namespace std;

int main() {

        int          choice; // This value is set by the user when prompted.
        int        numBooks;
        string         date; // MM/DD/YY
        string         isbn;
        string    bookTitle;
        float     bookPrice;
        float         total;
        float       taxPaid;
        float      subTotal;
        float  taxRate = .1;
        bool   done = false;

        cout << "Serendipity Booksellers\nMain Menu\n\n";
        cout << "1. Cashier Module\n";
        cout << "2. Inventory Database Module\n";
        cout << "3. Report Module\n";
        cout << "4. Book Information\n";
        cout << "5. Exit\n\n";
        cout << "Enter your choice: ";

        do {
                cout << "\nPlease enter a number between 1 - 5: ";
                cin >> choice;
        } while (choice < 1 || choice > 4);

        switch (choice) {
                case 1: { // Main Menu
```

```cpp
                do {
                        cout << "\nPlease Enter The Date (MM/DD/YY): ";
                        cin >> date;
                        cout << "\nEnter the Title of the Book: ";
                        cin.ignore();
                        getline(cin, bookTitle);
                        cout << "\nEnter ISBN of the Book: ";
                        cin >> isbn;
                        cout << "\nHow many copies of the book will you be buying?: ";
                        cin >> numBooks;
                        cout << "\nHow much does the book cost?: $";
                        cin >> bookPrice;

                        subTotal = numBooks * bookPrice;
                        taxPaid = subTotal * taxRate;
                        total = subTotal + taxPaid;

                        cout << "\nSerendipity Booksellers\n\n " << date;
                        cout << "\n\nQty\tISBN\t\tTitle\t\tPrice\tTotal";
                        cout << fixed;
                        cout << "\n\n" << numBooks << "\t" << isbn << "\t\t" << bookTitle <<
"\t$" << setprecision(2) << bookPrice << "\t$" << setprecision(2) << total;
                        cout << "\n\n\n\t\tSubtotal \t$" << setprecision(2) << subTotal;
                        cout << "\n\t\tTax \t$" << setprecision(2) << taxPaid;
                        cout << "\n\t\tTotal \t$" << setprecision(2) << total;
                        cout << "\n\nWould you like to process another transaction? (1 yes / 2
no): ";
                        cin >> choice;
                } while (choice == 1);
                cout << "\n\nThank You For Shopping Serendipity!";
                break;
        }
        case 2: {
                cout << "\nSerendipity Booksellers\nInventory Database";
                cout << "\n\n1. Look-Up a Book\n2. Add a Book";
                cout << "\n3. Edit a Book's Record\n4. Delete a Book";
                cout << "\n5. Return to the Main Menu\n\nEnter Your Choice: ";
                do  {
                        cout << "\nPlease enter a number between 1 - 5: ";
                        cin >> choice;
                } while (choice < 1 || choice > 4);

                cout << "\nYou selected item " << choice;
                break;
        }
        case 3: {
                cout << "\nSerendipity Booksellers\nReports";
                cout << "\n\n1. Inventory Listing\n2. Inventory Wholesale Value";
                cout << "\n3. Inventory Retail Value\n4. Listing by Quanitity";
                cout << "\n5. Listing by Cost\n6. Listing by Age\n7. Return to Main Menu";
                cout << "\n\nEnter your choice: ";

                do {
                        cout << "\nPlease enter a number between 1 - 7: ";
                        cin >> choice;
                } while (choice < 1 || choice > 6);
                cout << "\nYou selected item " << choice;

                break;
        }
        case 4: {
                cout << "\nSerendipity Booksellers\nBook Information";
```

```cpp
            cout << "\nISBN: \nTitle: \nAuthor: \nPublisher: \nDate Added: ";
            cout << "\nQuantity On Hand: \nWholesale Cost: \nRetail Price: ";
            break;
        }
        case 5: {
            cout << "Thank you for shopping Serendipity!";
            break;
        }
        default: {
            cout << "\nInvalid Input";
        }
    }
}
}
```

Output

```
How many kids are in the class?(1-20) 20
Andrew
Brian
Chris                                   How many kids are in the class?(1-20) 13
Danny                                   Andrew
Eddie
Fred                                    Brian
Georgie                                 Chris
Hannah                                  Danny
Isaiah                                  Eddie
Jackie                                  Fred
Kelly
Lewis                                   Georgie
Monty                                   Hannah
Nate                                    Isaiah
Oscar                                   Jackie
Patrick                                 Kelly
Quentin
Richard                                 Lewis
Steve                                   Monty
Tedward
```

```
Serendipity Booksellers
Main Menu

1. Cashier Module
2. Inventory Database Module
3. Report Module
4. Book Information
5. Exit

Enter your choice:
Please enter a number between 1 - 5: 6

Please enter a number between 1 - 5: 7

Please enter a number between 1 - 5: -5

Please enter a number between 1 - 5: 1

Please Enter The Date (MM/DD/YY): 12/27/1019

Enter the Title of the Book: Animal Farm

Enter ISBN of the Book: 1561351

How many copies of the book will you be buying?: 3

How much does the book cost?: $12.99

Serendipity Booksellers

 12/27/1019

Qty     ISBN            Title           Price   Total

3       1561351         Animal Farm     $12.99  $42.87


            Subtotal        $38.97
            Tax     $3.90
            Total   $42.87

Would you like to process another transaction? (1 yes / 2 no): 1

Please Enter The Date (MM/DD/YY): █
```