Laboratory 3 Activity Instructions

1. Download or copy the **formatted_cmdline_io_v10.h** file. Remember in your Dev C++ to "Save as type:" "Header Files". Don't let it be saved as a **.cpp** file.

2. Download or copy the **Lab03Activity.cpp** file from WebCampus, this time saving it as a **.cpp** file. Implement the following activities, but compile and run the program after each step to eliminate bugs and observe what happens.

3. In the "Global Constants" area, type the following, then compile:

```
const char PIPE = '|';

const int NO_BLOCK_SIZE = 0;
const int ONE_END_LINE = 1;
const int TWO_END_LINES = 2;
const int DECIMAL_PRECISION = 2;

const int INSIDE_NAME_BLOCK_SIZE = 19;
const int INSIDE_AGE_BLOCK_SIZE = 9;
const int INSIDE_GPA_BLOCK_SIZE = 8;
```

4. Under "variable initialization", type the following, then compile:

```
string nameOne = "Susan H. Jones", nameTwo = "Ralph A. Smith";
int ageOne = 24, ageTwo = 22;
double gpaOne = 3.515, gpaTwo = 3.243;
```

5. Under "make vertical lines", type the following, then compile:

```
printEndLines( TWO_END_LINES );
```

6. Under "display the header", type the following, then compile. Note that there are 40 dashes between the pipes on the long line, and then 20, 9, and 9 between the pipes on the divided lines.

```
printString( "    |----------------------------------------|", NO_BLOCK_SIZE, "LEFT" );
printEndLines( ONE_END_LINE );

printString( "    |            Student Information          |", NO_BLOCK_SIZE, "LEFT" );
printEndLines( ONE_END_LINE );

printString( "    |--------------------|---------|---------|", NO_BLOCK_SIZE, "LEFT" );
printEndLines( ONE_END_LINE );

printString( "    | Name               |   Age   |   GPA   |", NO_BLOCK_SIZE, "LEFT" );
printEndLines( ONE_END_LINE );

printString( "    |--------------------|---------|---------|", NO_BLOCK_SIZE, "LEFT" );
printEndLines( ONE_END_LINE );
```

7. Under "display data line one", type the following, then compile:

```
printString( "     | ", NO_BLOCK_SIZE, "LEFT" );
printString( nameOne, INSIDE_NAME_BLOCK_SIZE, "LEFT" );
printChar( PIPE );
printInt( ageOne, INSIDE_AGE_BLOCK_SIZE, "CENTER" );
printChar( PIPE );
printDouble( gpaOne, DECIMAL_PRECISION, INSIDE_GPA_BLOCK_SIZE, "RIGHT" );
printString( " |", NO_BLOCK_SIZE, "LEFT" );
printEndLines( ONE_END_LINE );
```

8. Under "display data line two", type the following, then compile:

```
printString( "     | ", NO_BLOCK_SIZE, "LEFT" );
printString( nameTwo, INSIDE_NAME_BLOCK_SIZE, "LEFT" );
printChar( PIPE );
printInt( ageTwo, INSIDE_AGE_BLOCK_SIZE, "CENTER" );
printChar( PIPE );
printDouble( gpaTwo, DECIMAL_PRECISION, INSIDE_GPA_BLOCK_SIZE, "RIGHT" );
printString( " |", NO_BLOCK_SIZE, "LEFT" );
printEndLines( ONE_END_LINE );
```

9. Under "display table bottom line", type the following, then compile:

```
printString( "     |---------------------------------------|", NO_BLOCK_SIZE, "LEFT" );
printEndLines( TWO_END_LINES );
```

10. Under "hold program", type the following:

```
system( "pause" );
```

If you do not complete this in class, it is worth your effort to finish this program on your own.