

CSE 2133 - Lab 1

Part A

You will write an interactive program (name it **lab1a.cob**) that will prompt the user for a 4 digit (unsigned) number. The program will repeat this until the user enters a 0. The program will show the last number the user entered. **Note that the 0 is not to be treated as the last number entered; it is strictly a sentinel value, not data.** Make sure all instructions and outputs are clear and meaningful.

Sample session:

```
Enter a 4-digit unsigned number (0 to stop): 12
Enter a 4-digit unsigned number (0 to stop): 8
Enter a 4-digit unsigned number (0 to stop): 9999
Enter a 4-digit unsigned number (0 to stop): 5
Enter a 4-digit unsigned number (0 to stop): 270
Enter a 4-digit unsigned number (0 to stop): 1
Enter a 4-digit unsigned number (0 to stop): 9876
Enter a 4-digit unsigned number (0 to stop): 0
```

The last number entered: 9876

Part B

This will be a modification of lab1a. This program will be named **lab1b.cob** and will allow for multiple sessions in a run. With the “Another Session” prompt, an input value of “N” will stop the program; any other value can be treated as a “Y” and initiate a new session.

Sample run:

Another Session (Y/N)? Y

```
Enter a 4-digit unsigned number (0 to stop): 12
Enter a 4-digit unsigned number (0 to stop): 8
Enter a 4-digit unsigned number (0 to stop): 9999
Enter a 4-digit unsigned number (0 to stop): 5
Enter a 4-digit unsigned number (0 to stop): 270
Enter a 4-digit unsigned number (0 to stop): 1
Enter a 4-digit unsigned number (0 to stop): 9876
Enter a 4-digit unsigned number (0 to stop): 0
```

The last number entered: 9876

Another Session (Y/N)? Y

```
Enter a 4-digit unsigned number (0 to stop): 18
Enter a 4-digit unsigned number (0 to stop): 19
Enter a 4-digit unsigned number (0 to stop): 20
Enter a 4-digit unsigned number (0 to stop): 0
```

The last number entered: 20

Another Session (Y/N)? N

Part C

This will be a modification of lab1a. This program will be named **lab1c.cob** and will be a batch version of lab1a.cob. The input file will be named “lab1c-in.dat” and will be located in the same directory as the lab1c executable (so do not specify a path for the file in the Select statement). Each record of the file will contain a single 4-digit unsigned number. This program will display to the screen the last number in the file.

There is no sentinel value within the file; each record is to be treated as data, even if the value on the record is 0. Also, each file represents a single session.

Bonus Points

Bonus points are possible for each of the three parts if the programs can also show the first number entered for each session, in addition to the last number. **Note that 0 is not to be treated as the first number entered; it is strictly a sentinel value, not data.**