## Project Ideas

Below are some sample projects that were assigned recently in CMSC 131. Click the project name to view the full project description. We do not suggest assigning all of these in one semester -- usually 7 to 9 projects are assigned during the course, depending on the difficulty.

The projects below are ordered according to the lecture schedule contained herein. We list the skills that are required for each project beyond the skills required for those listed previously. (Not every project requires every skill listed previously -- it's complicated.)

We include the name of the primary authors so that instructors at UMCP may request project files. These files will not be made available to anyone outside of this department.

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| **Project Link** | **Skills Required (beyond those required in previous projects)** | **Primary Author** |
| [Hello World](about:blank) | Course tools (checking out and submitting projects via Eclipse) | [Fawzi Emad](http://www.cs.umd.edu/~fpe) |
| [Orioles Baseball](about:blank) | Local variables, primitive types, Strings, concatenation, text input/output, comparison and equality operators, calling equals method, conditional statements, logical operators | [Fawzi Emad](http://www.cs.umd.edu/~fpe) |
| [Money ID](about:blank) | [Same as Baseball project, above] | [Nelson Padua-Perez](http://www.cs.umd.edu/~nelson) |
| [Flags of the World](about:blank) | Loops (including nesting), static methods (including parameters) | [Fawzi Emad](http://www.cs.umd.edu/~fpe) |
| [Name Class](about:blank) | Writing a complete Java class (including instance variables, static variables, constructors, instance methods), return values, toString | [Nelson Padua-Perez](http://www.cs.umd.edu/~nelson) |
| [Mandelbrot Set](about:blank) | [Similar to Name Class, but also requires JUnit testing] | [Fawzi Emad](http://www.cs.umd.edu/~fpe) |
| [Hangman](about:blank) | Arrays (one dimensional) and String manipulation | [Ilchul Yoon](http://www.cs.umd.edu/~iyoon) |
| [Poker Simluator](about:blank) | [Similar to Hangman, but a bit harder.] | [Fawzi Emad](http://www.cs.umd.edu/~fpe) |
| [Photo Processing System](about:blank) | Exception handling, "this", StringBuffer, writing several interdependent classes | [Nelson Padua-Perez](http://www.cs.umd.edu/~nelson) |
| [Cafe Simulation](about:blank) | [Similar to Photo Processing System] | [Fawzi Emad](http://www.cs.umd.edu/~fpe) |
| [Marquee](about:blank) | Rectangular two-dimensional arrays, Java interfaces | [Nelson Padua-Perez](http://www.cs.umd.edu/~nelson) |
| [Fish Club](about:blank) | ArrayList, for-each loops | [Fawzi Emad](http://www.cs.umd.edu/~fpe) |
| [Text Analysis](about:blank) | Invoking many methods from String API | [Ilchul Yoon](http://www.cs.umd.edu/~iyoon) |
| [Media Rental Manager](about:blank) | Project design, inheritance | [Nelson Padua-Perez](http://www.cs.umd.edu/~nelson) |
| [Grade Analysis](about:blank) | Overriding equals method of Object class,  **Important:** This project requires the following **optional** topics: Java List interface, Java Maps | [Ilchul Yoon](http://www.cs.umd.edu/~iyoon) |