1 User Manual

1.1 Directory Structure

```
Solitaire
├── include
│   └── Contains all the header files for my program
├── obj
│   └── Contains the object files for compilation
├── output
│   └── Where the output of the program is placed and contains any
│       sets of outputs that were renamed and saved
├── pythonScripts
│   └── Contains any Python scripts
├── rapidjson
│   └── The RapidJSON C++ library
├── solverConfigs
│   └── Contains the JSON files that specify solver configurations
└── source
    └── Contains the source files for my program
```

The directory is structured as shown. The only files at the top level are the Makefile, the executable and the results table.

1.2 Build Instructions

The Makefile for my program supports two commands run in the Solitaire directory;

- `make` - This builds the program and produces the klondikeSolver executable.
- `make clean` - This empties the obj folder and deletes the executable.

1.3 Running Instructions

Use the following command to run the program:

```
./klondikeSolver [-d deal_number] [-g num_games] [-s starting_seed]
[-h solver_config_file] [-v]
```

- **-d** - The deal number for the game. Default value is 3.
- **-g** - The number of games to be played. Default value is 1000.
- **-s** - The seed for the first game to be played. Default value is time(NULL).
- **-h** - The filepath of the solver configurations to be used. Default is using a single basic solver

- **-v** - Specifies if the program should be run in verbose mode, printing out each step of each game. Default is running without this flag.

The output is a csv file which is printed in the console and placed in the output directory with the name output.csv.

1.4 Supporting Programs

There are two supporting python scripts in the pythonScripts directory. Heuristic-test-gen.py generates a set of solver configurations and places its output in the solverConnfigs directory. Process-test.py processes an output csv from the main program and prints the top ten best solvers from the file on the console. The path to this output file must be specified as the first argument.