Developing programs

- **What’s the purpose of a Makefile?**
  - Dependencies, recompiles
  - Environment dependencies

- **How does a makefile work?**
  - Key features: target, dependencies, command(s)
  - When target is invoked, changes in dependencies can cause command(s) to execute
  - What’s the silly Makefile tab rule? Continued lines?

- See Makefile guide on class resource page
Inheritance issues: piles, Freecell

- **What's Deck, what's a Pile, what's a BoardPile?**
  - What is behavior of deck? Different from BoardPile?

- **C++ issues in header files**
  - Where is Displayer declared? Why no include in pile.h?
  - In general avoid header-file dependencies

- **What about pure virtual functions?**
  - Code duplication in pile.cpp, how can we avoid this?
  - Can we use multiple inheritance?
Exceptional situations

- Do we always need to check if we can add a card to a pile?
- Do we need to check that we can take a card?
- What do we return from `takeCard` when there are none?
  - Require user to check precondition, but then what?

- We can use exceptions
  - Throw exceptions
  - Catch exceptions
  - See `pile.cpp` for details
Toward MVC in Freecell

- Scenarios in playing?
- What is model of game?
  - State
  - Behavior
- Developing prototype
- What to do with no GUI
  - Selecting piles?
  - Options?
- What is view of game?