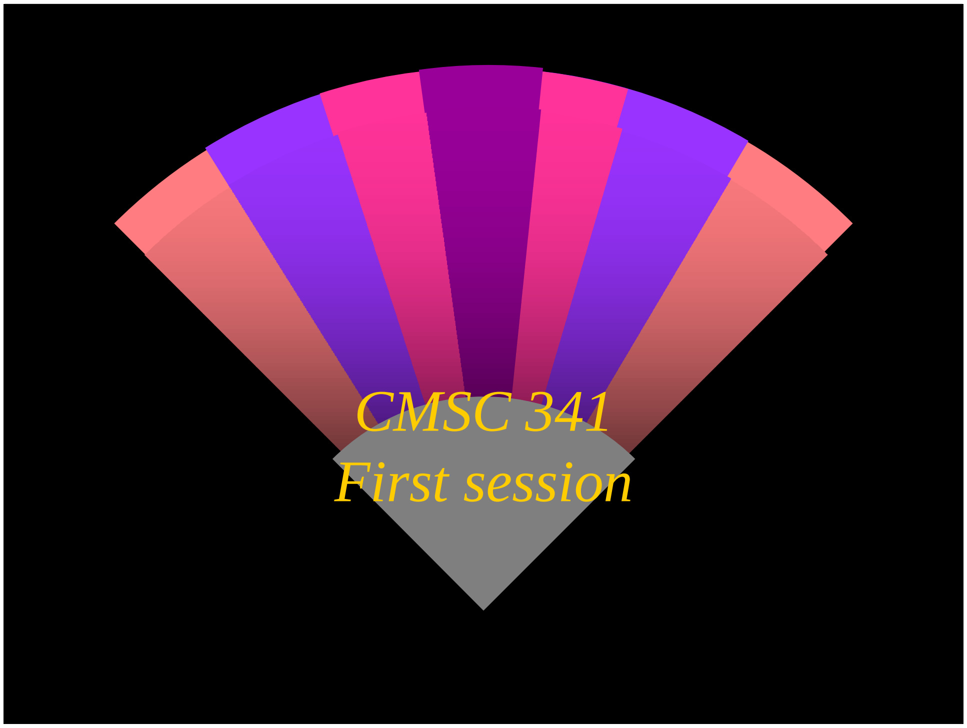
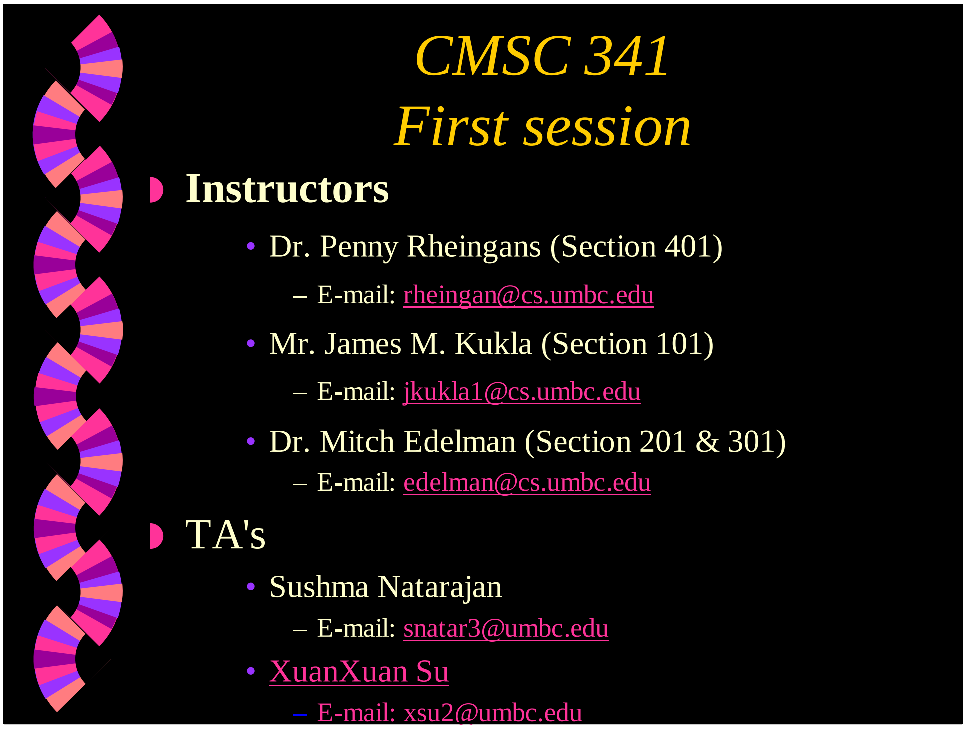
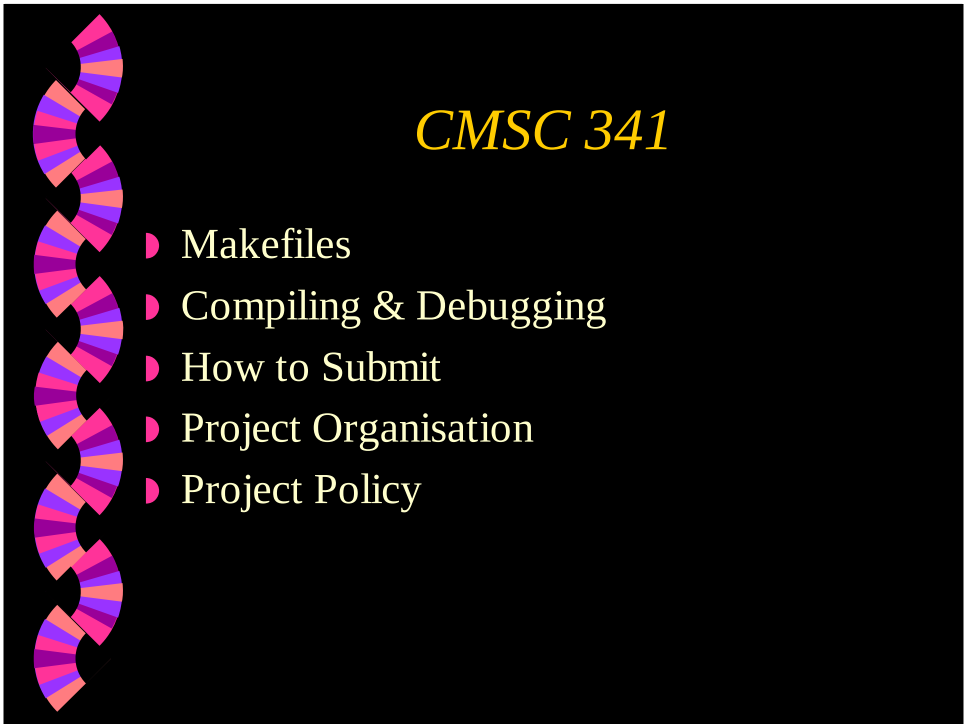


CMSC 341
First session



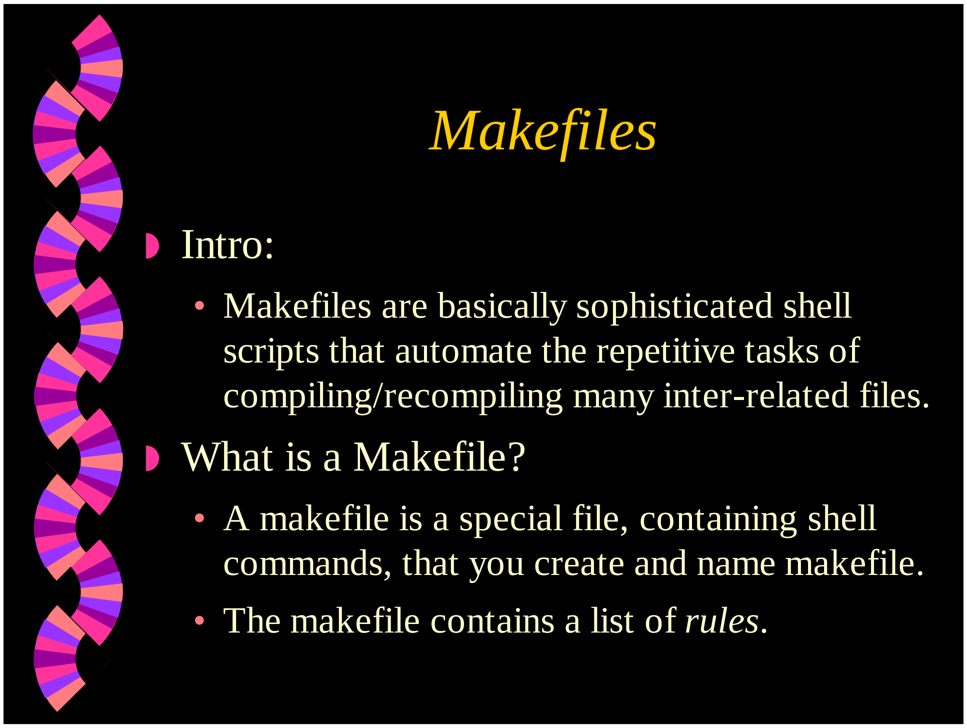
CMSC 341
First session

- **Instructors**
  - Dr. Penny Rheingans (Section 401)
    - E-mail: rheingan@cs.umbc.edu
  - Mr. James M. Kukla (Section 101)
    - E-mail: jkukla1@cs.umbc.edu
  - Dr. Mitch Edelman (Section 201 & 301)
    - E-mail: edelman@cs.umbc.edu
- TA's
  - Sushma Natarajan
    - E-mail: snatar3@umbc.edu
  - XuanXuan Su
    - E-mail: xsu2@umbc.edu



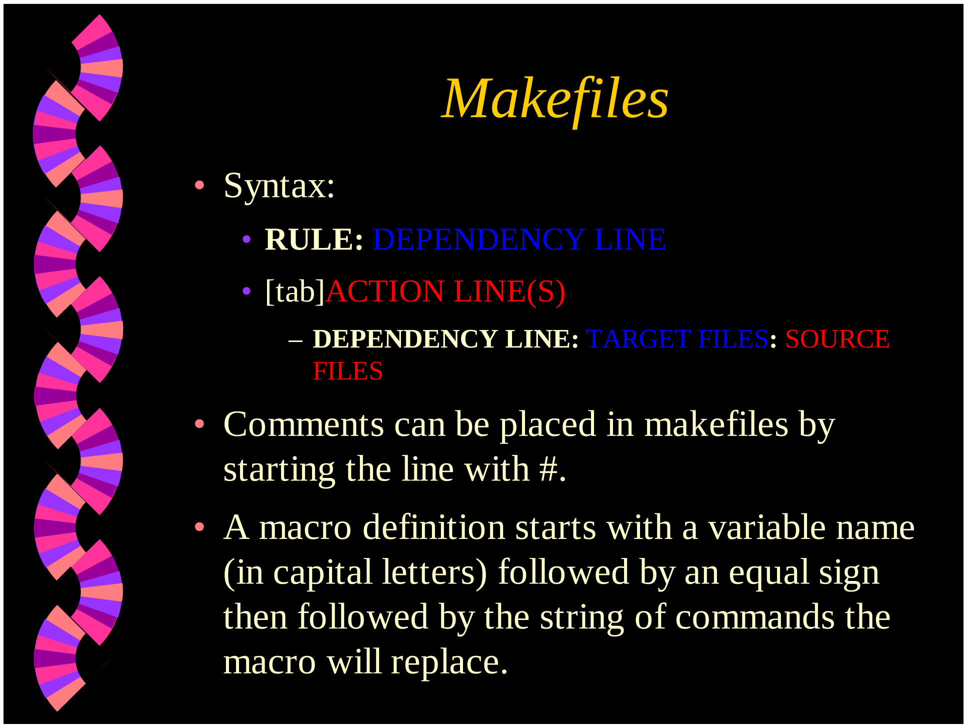
CMSC 341

- Makefiles
- Compiling & Debugging
- How to Submit
- Project Organisation
- Project Policy



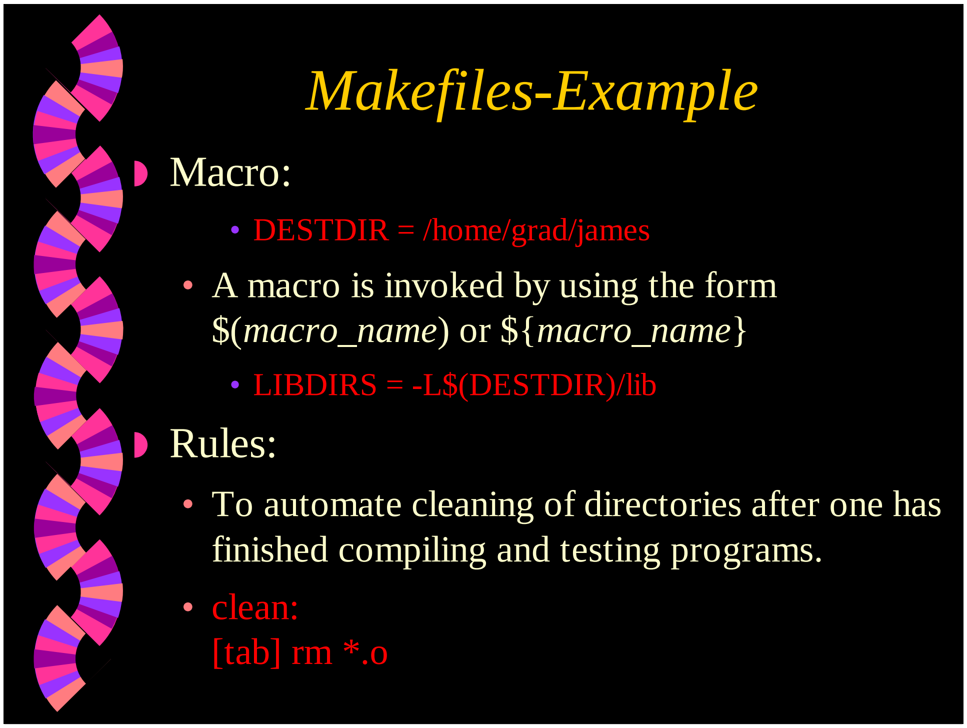
Makefiles

- Intro:
  - Makefiles are basically sophisticated shell scripts that automate the repetitive tasks of compiling/recompiling many inter-related files.
- What is a Makefile?
  - A makefile is a special file, containing shell commands, that you create and name makefile.
  - The makefile contains a list of *rules*.



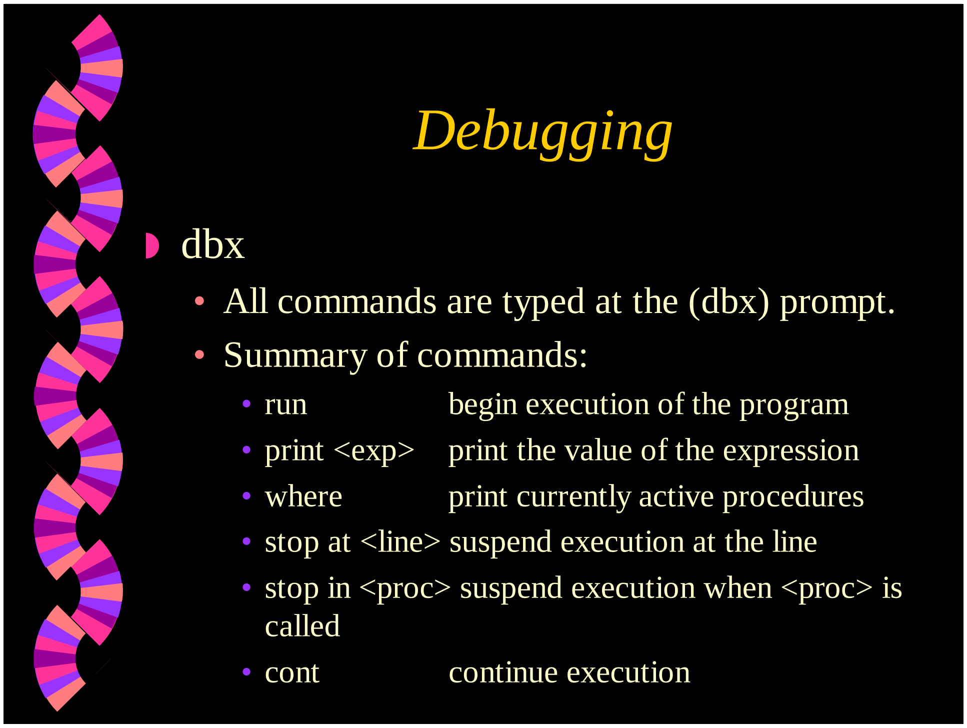
Makefiles

- Syntax:
  - **RULE:** DEPENDENCY LINE
  - [tab]ACTION LINE(S)
    - **DEPENDENCY LINE:** TARGET FILES**:** SOURCE FILES
- Comments can be placed in makefiles by starting the line with #.
- A macro definition starts with a variable name (in capital letters) followed by an equal sign then followed by the string of commands the macro will replace.



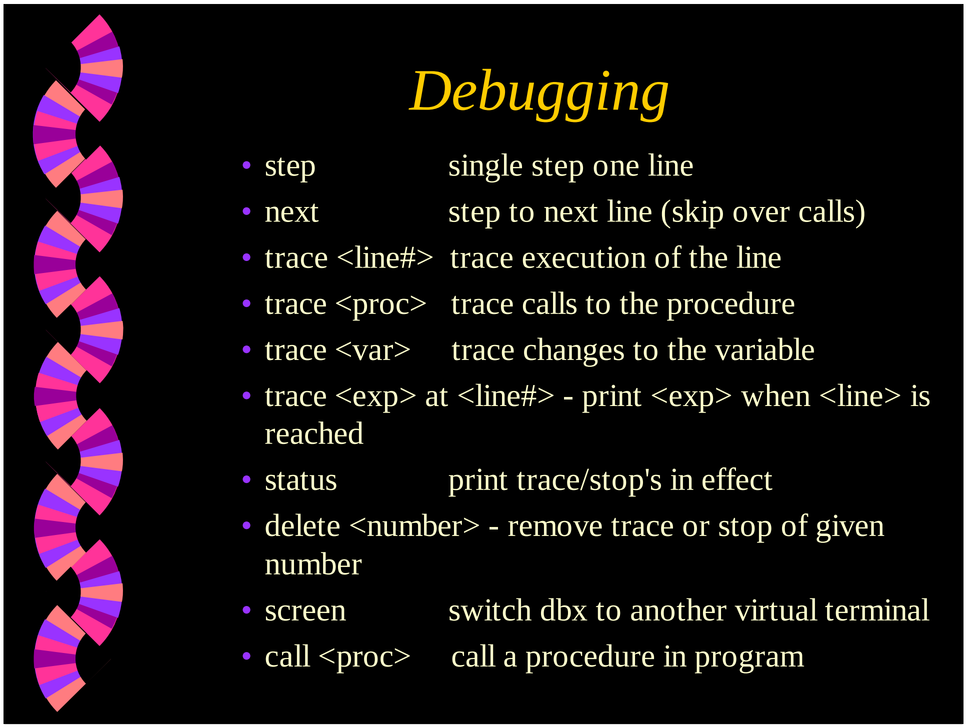
Makefiles-Example

- Macro:
  - DESTDIR = /home/grad/james
  - A macro is invoked by using the form $(*macro_name*) or ${*macro_name*}
    - LIBDIRS = -L$(DESTDIR)/lib
- Rules:
  - To automate cleaning of directories after one has finished compiling and testing programs.
  - clean:
[tab] rm *.o



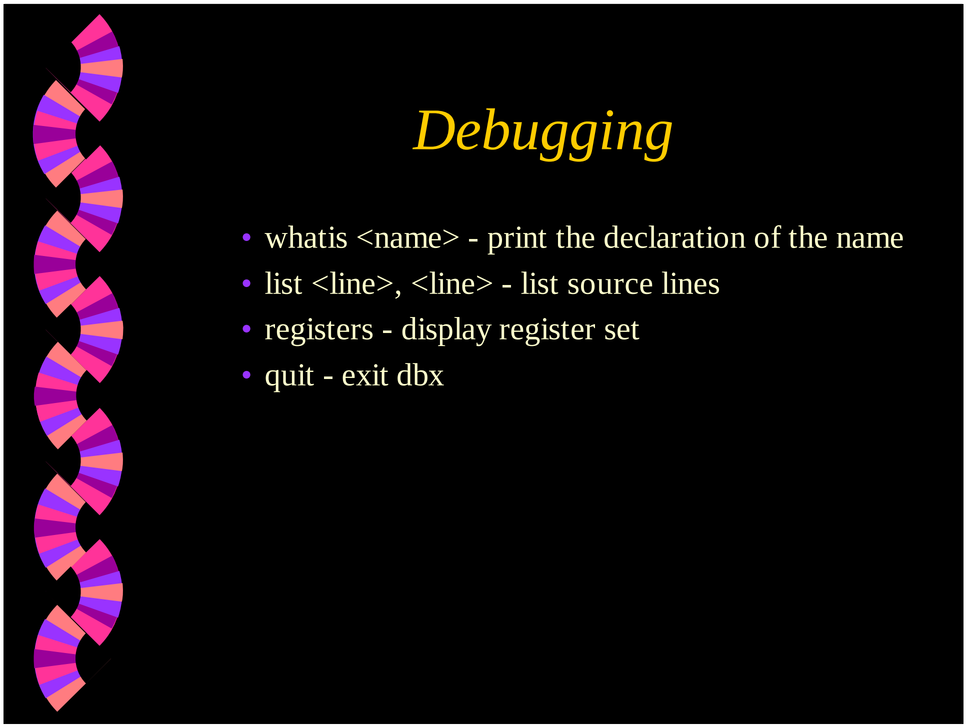
Debugging

- dbx
  - All commands are typed at the (dbx) prompt.
  - Summary of commands:
    - run begin execution of the program
    - print <exp> print the value of the expression
    - where print currently active procedures
    - stop at <line> suspend execution at the line
    - stop in <proc> suspend execution when <proc> is called
    - cont continue execution



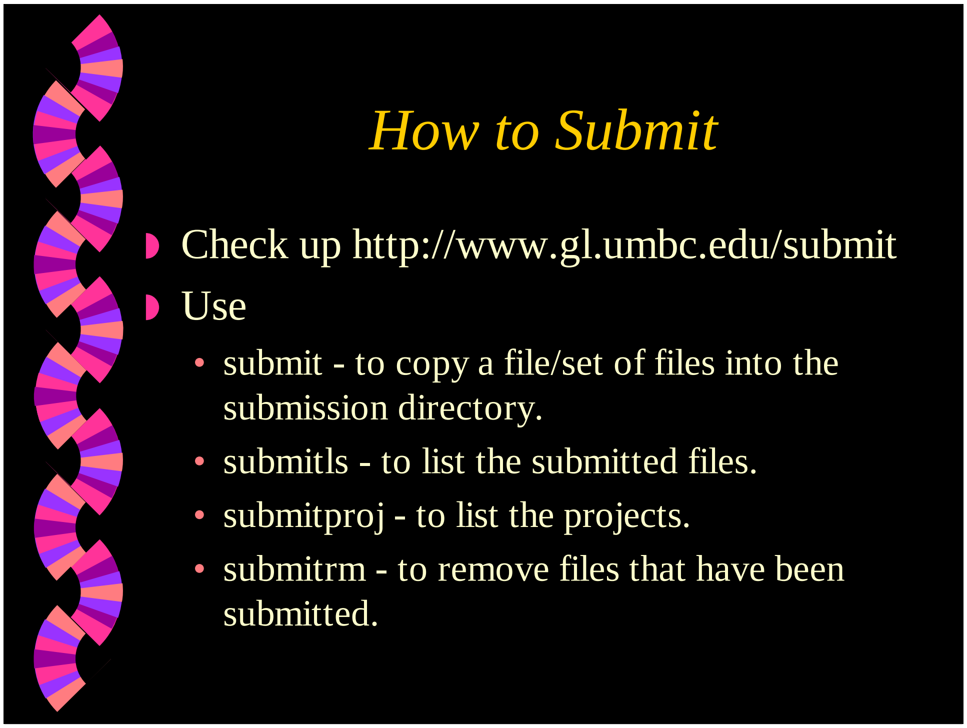
Debugging

- step single step one line
- next step to next line (skip over calls)
- trace <line#> trace execution of the line
- trace <proc> trace calls to the procedure
- trace <var> trace changes to the variable
- trace <exp> at <line#> - print <exp> when <line> is reached
- status print trace/stop's in effect
- delete <number> - remove trace or stop of given number
- screen switch dbx to another virtual terminal
- call <proc> call a procedure in program



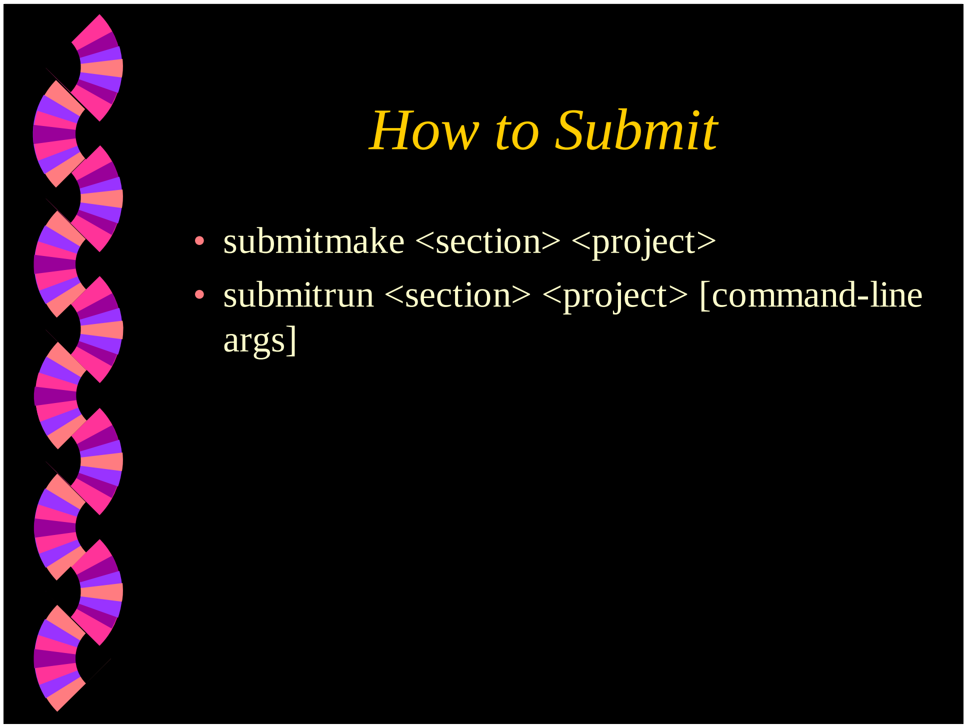
Debugging

- whatis <name> - print the declaration of the name
- list <line>, <line> - list source lines
- registers - display register set
- quit - exit dbx



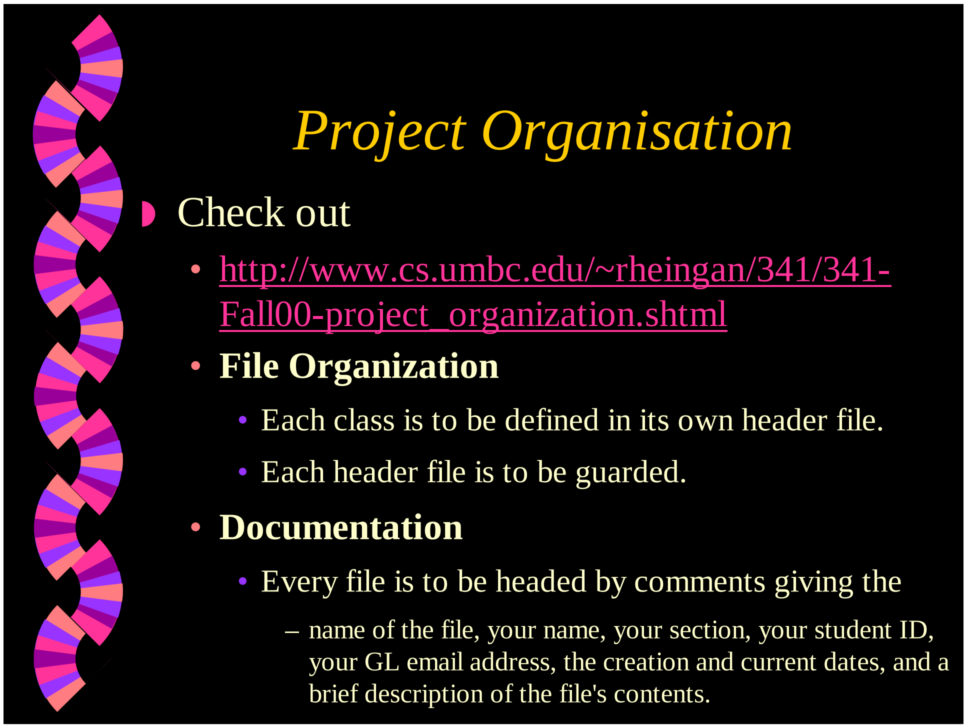
How to Submit

- Check up http://www.gl.umbc.edu/submit
- Use
  - submit - to copy a file/set of files into the submission directory.
  - submitls - to list the submitted files.
  - submitproj - to list the projects.
  - submitrm - to remove files that have been submitted.



How to Submit

- submitmake <section> <project>
- submitrun <section> <project> [command-line args]



Project Organisation

- Check out
  - http://www.cs.umbc.edu/~rheingan/341/341-Fall00-project_organization.shtml
  - **File Organization**
    - Each class is to be defined in its own header file.
    - Each header file is to be guarded.
  - **Documentation**
    - Every file is to be headed by comments giving the
      - name of the file, your name, your section, your student ID, your GL email address, the creation and current dates, and a brief description of the file's contents.

CMSC 341

All the best !!!!