On With The Games

• Today we are going to watch each group play a couple of rounds of cards.

• We will go through the game slowly making comments and taking notes on the way.

• In the computing lab we will start implementing the games in a C version.
Continue Play and Game Analysis
Designing The Code

• Before we write a line of computer code, we should figure out what kind of structures (or classes) we are going to use.

• This requires us to think about what objects are getting passed between players?

• Also, what do we do with these objects?

See: http://www.accu.org/acornsig/public/articles/oop_c.html
The Objects Analysis

• To play cards we need:
  – a **deck** of playing cards.
  – a set of **cards**
  – a method of determining the suit and value of each card
  – each player has a **hand** of cards

• We should build the following enums (identifiers)
  – suit
  – value

• We should build the following structs:
  – deck
  – hand
  – card
Defining **card**

- Let’s not go over board on the descriptor for **card**
- A **card** has a value and a suit attached to it, e.g. the 7 of hearts
- We should be able to create and destroy a **card**
- We should be able to identify the suit and value of a **card**
Defining **hand**

We should be able to:

- determine the number of cards in the **hand**
- determine the suit and value of any given card in the **hand**
- create and destroy the **hand**
- add and remove cards from the **hand**
Defining pack

We should be able to:

- determine the number of cards left in the **pack**
- determine the suit and value of the next card in the **pack**
- create and destroy **pack**
- add and remove cards from the **pack**
- shuffle (randomize the order the cards the **pack** are stored in)
Group Exercise

• Using the online code as a base (if you choose) you are going to create a card playing game.

• No strategy is required for choosing which card to play.

• Use a random number generator to decide which card from your hand to play at each round.

• If there is a constraint on which card you can play based on what is visible keep generating random numbers until you can play the chosen card.
Group Exercise

• Appoint a group leader for this exercise

• Decide who is going to implement what

• Design the objects (structs) so that they will be sufficiently flexible for your purposes

• Make sure each group member has a full description of objects and interfaces (appointing an object guru may help).

• Each member may wish to work in separate files as much as possible (e.g. card.c hand.c ....)
Group Exercise

• Once you have built your objects proceed to implement the game.

• In essence the game can be described as an object.

• Decide what needs to be stored in the game object and what actions it needs to be able to permit.
Group Exercise

• Once the game is completely assembled start testing to see any problems at compile time.
• Debug the game by running it for one hand and output every action

• Test everything you possibly can – for now use print statements to follow the code…
Deadline

• The code should be finished by Monday 3rd September for the class.

• Use email and/or set up a web bulletin board to communicate between group members.

• Write a group report – including a section describing who did what.