

# COS 126 Precept

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# Agenda

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- ▶ Quick Review of Classes
- ▶ Discussion of GuitarHero



# War.java (Client of Card and Player)

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- ▶ Creates a shuffled deck of cards
- ▶ Creates two players, and passes out cards to each player
- ▶ Draws a window
- ▶ Until all cards are drawn:
  - ▶ Draw the cards
  - ▶ Each player draws a card
  - ▶ compare which card is better
  - ▶ the winner gets a point
- ▶ At the end, declare a winner!



# Exercise

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- ▶ **Card.java**

- ▶ Represents a single card
- ▶ Need to represent:
  - ▶ Suit
  - ▶ Rank
  - ▶ Image for Front
  - ▶ Image for Back

- ▶ **'this'**

- ▶ Represents the object which is currently executing the current function
- ▶ Calling `this.someFunction()` is same as calling `someFunction()`
- ▶ Can also call a constructor (see `Card(int, String, String)`)



# Card.java

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- ▶ **Card(#,FrontFile,BackFile)**
  - ▶ Takes in card # (from 0 - 51)
  - ▶ Filename for image on front of card
  - ▶ Filename for image on back of card
- ▶ **drawFront(x,y)**
- ▶ **drawBack(x,y)**
- ▶ Usage: `java -cp .:cards.jar Card`



# Player.java

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- ▶ **Player.java**
  - ▶ Maintains set of Cards
  - ▶ Lets guess its API:
    - ▶ `Player("Name",PositionX, PositionY)`
    - ▶ `dealTo()`
    - ▶ `drawHidden()`
    - ▶ `dealFrom()`
    - ▶ `drawFront(x,y)`



# Player Variables

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- ▶ **Final Variable: MAX\_CARDS**
  - ▶ This is a constant value, you cannot change MAX\_CARDS in any way. It is fixed at 52
- ▶ **Array of Cards**
- ▶ **Number of Cards**
- ▶ **Deck Location (x,y)**
- ▶ **Player Name**



# Player.java Constructor

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- ▶ Remember this for Next Assignment
  - ▶ This is how you instantiate an array of objects
  - ▶ `Object [] arrayName = new Object [Number]`
  - ▶ For `I = 0` to `Number`
    - ▶ `arrayName[i] = new Object(Some Arguments)`



# What to fill in for Player.java?

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- ▶ **Constructor**

- ▶ Set N = to MAX\_CARDS
- ▶ Create all MAX\_CARDS # of cards
  - ▶ Storing them in the array 'cards'

- ▶ **Shuffle**

- ▶ Loop over all Cards
  - ▶ Choose a random index (this corresponds to a card)
  - ▶ Swap card in each index with the randomly chosen card

- ▶ **drawHidden**

- ▶ StdDraw.text(xpos,ypos,StringToPrint);
- ▶ Call drawing method of card object



# Guitar Hero

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- ▶ Guitar Hero Description

