Blackjack

Topics

- Flow Charts
- Blackjack Logic

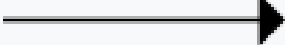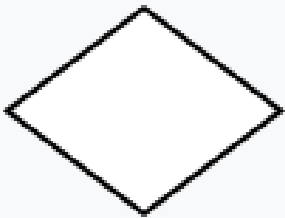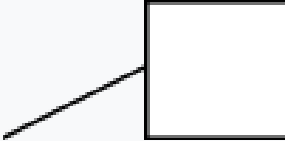# Blackjack

Flow Charts

Flow Charts

- Flow charts are a way for you to diagram an algorithm.
  - Flowchart - Wikipedia

Common Symbols

→	Flowline (Arrowhead)[15]
(rounded rectangle)	Terminal[14]
(rectangle)	Process[15]
(diamond)	Decision[15]
(parallelogram)	Input/Output[15]
(bracket with box)	Annotation[14] (Comment)[15]
(rectangle with side bars)	Predefined Process[14]
(circle)	On-page Connector[14]
(pentagon)	Off-page Connector[14]

Sample Flowchart
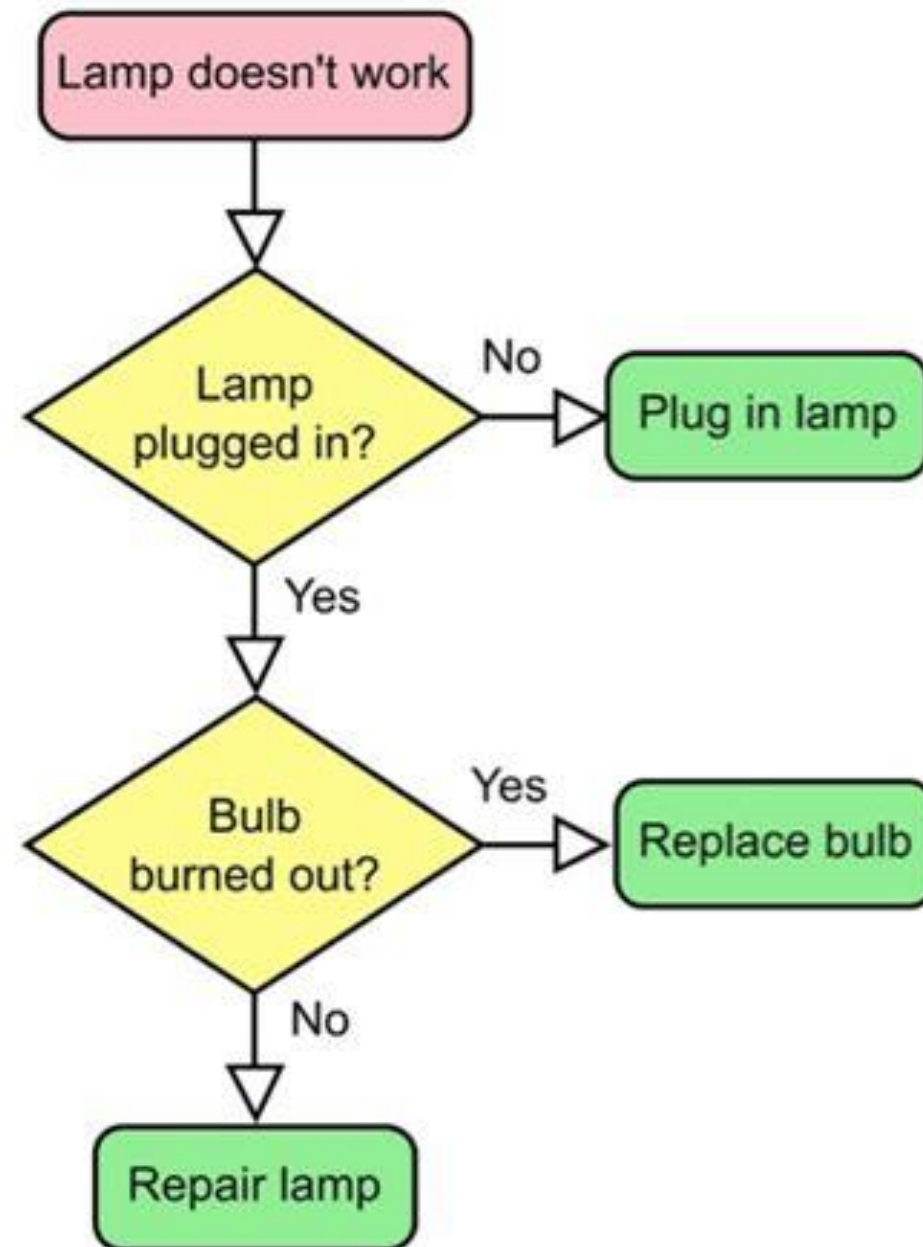
Blackjack

Blackjack Objects

- You've already created the Blackjack Objects in Lab 2
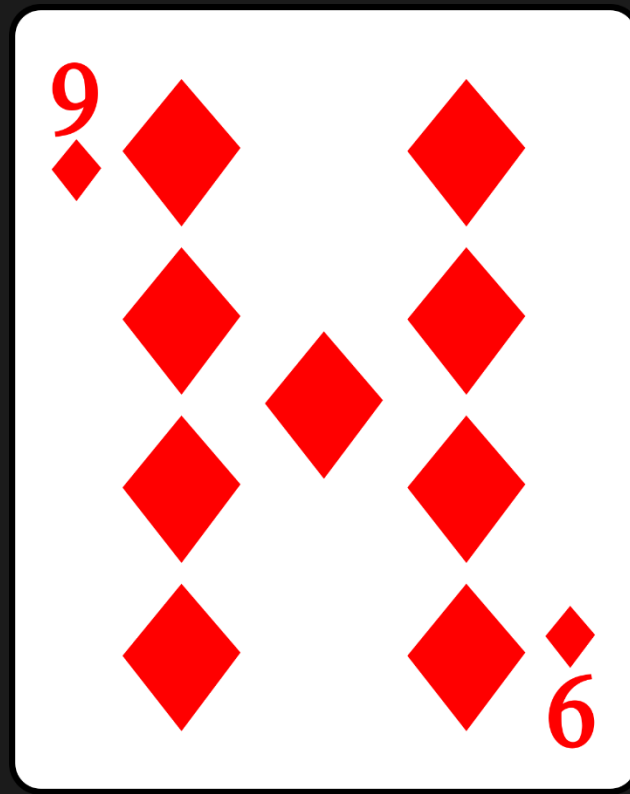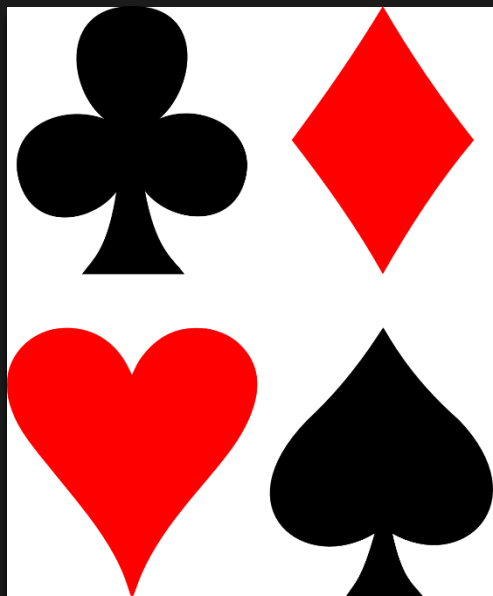
Blackjack Game Logic

- Blackjack Game Class:

  - Objects needed: Deck, Player's Hand, Dealer's Hand

  - Methods needed:

    - Play Round

    - Deal the initial cards

    - Player's turn

    - Dealer's turn

    - Declare the winner

    - Draw Table

Menu

- Start a Game Loop
  - Call Play Round on a BlackjackGame instance
  - "Do you want to play again?"
    - If no, exit loop

Play Round

Blackjack Game Logic

PlayRound()

create the game objects

Call Deal Initial Cards

If no one has 21

call Player's Turn

call Dealer's Turn

Call Declare Winner

Deal Initial Cards

Blackjack Game Logic

- Deal Initial Cards
  - Repeat until everyone has 2 cards:
    - Go around the "table" dealing a card to everyone. Start with the player and end with the dealer.

Player's Turn

Blackjack Game Logic

- Player's Turn
  - loop while player's score < 21
    - Show cards in player's hand
    - Ask "Hit / Stand?"
    - If player chooses to stand
      - Exit the loop
    - Deal another card to the player's hand

Dealer's Turn

Blackjack Game Logic

- Dealer's Turn
  - Draw all the dealer's cards
  - Loop while Dealer's score < 17
    - Deal a card to the dealer's hand

Declare Winner

Blackjack Game Logic

- Declare Winner

- Use an if-elseif block
  - If player busted, player loses
  - Otherwise, if the dealer busted, player wins
  - Otherwise, if the player score > the dealer score, player wins
  - Otherwise, if the dealer score > the player score, the dealer wins
  - Otherwise, it's a tie

Draw Table

Blackjack Game Logic

- Draw Table
  - Label the player's hand on the screen
  - Call Print on the player's hand
  - Label the dealer's hand on the screen
  - Call Print on the dealer's hand

  Make sure you set the coordinates so these items always show up in the same place in the console.

  Call this method when a hand changes.