# **Assignment 5: Phase 1**

## Assignment5P1

- ~ NUM\_CARD\_IMAGES: int
- ~ icon: Icon[]

- + main(String[] args): void
  ~ loadCardIcons(): void
   getFileName(): String[]
   turnIntIntoCardValue(int k): String
   turnIntIntoCardSuit(int j): String

## KEY

- + public access
   private access
  # protected
  ~ package private
  underlined text is static

## **Assignment 5: Phase 2**

## Assignment5P2

- ~ NUM CARDS PER HAND: int
- ~ NUM PLAYERS: int
- ~ computerLabels: JLabel[]
- ~ humanLabels: JLabel[]
- ~ playedCardLabels: JLabel[]
- + main(String[] args) : void
- generateRandomCard: Card

#### **JFrame**



#### CardTable

- ~ MAX CARDS PER HAND: int
- ~ MAX PLAYERS: int
- numCardsPerHand: int
- numPlayers: int
- + pnlComputerHand: JPanel
- + pnlHumanHand: JPanel
- + pnlPlayArea: JPanel
- + CardTable(String title, int numCardsPerHand, int numPlayers)
- + getNumCardsPerHand(): int
- + getNumPlayers(): int

## **GUICard**

- cardSuit: String[]
- iconCards: Icon[][]
- iconBack: Icon
- ~ iconsLoaded: boolean
- + GUICard()
- ~ loadCardIcons(): void
- getFileNames(): String[][]
- ~ turnIntIntoCardValue(int k) : String
- ~ turnIntIntoCardSuit(int j) : String
- valueAsInt(Card card): int
- suitAsInt(Card card) : int
- + getIcon(Card card) : Icon
- + getBackCardIcon(): Icon

#### Card

- value: char
- errorFlag: boolean
- suit: Suit
- + cardValues: char[]
- + valueRanks: char[]
- + Card()
- + Card(char value, Suit suit)
- + getSuit(): Suit
- + getValue(): char
- + getErrorFlag(): boolean
- + toString(): String
- + set(char value, Suit suit): boolean
- ~ arraySort(Card[] cards, int arraySize) : void
- findValueRankIndex(char cardValue) : int
- + equals(Card card) : boolean
- isValid(char value, Suit suit) : boolean

## Hand

- + MAX CARDS: int
- myCards: Card[]
- numCards: int
- + Hand()
- + resetHand(): void
- + getNumCards() : int
- + takeCard(Card card) : boolean
- + playCard() : Card
- + inspectCard(int k) : Card
- + toString(): String
- + sort(): void

# <<enumeration>>

#### Suit

CLUBS DIAMONDS HEARTS SPADES

#### Deck

- + MAX CARDS: int
- masterPack: Card[]
- cards: Card[]
- topCard: int
- numPacks: int
- + Deck()
- + Deck(int numPacks)
- + getTopCard() : int
- + init(int numPacks) : void
- + shuffle(): void
- + dealCard(): Card
- + inspectCard(int k) : Card
- allocateMasterPack(): void
- + addCard(Card card): boolean
- + removeCard(Card card): boolean
- + sort(): void
- + getNumCards() : int

## **Assignment 5: Phase 3**

## Assignment5P3

- ~NUM CARDS PER HAND: int
- ~ NUM PLAYERS: int
- ~ computerLabels: JLabel[]
- ~ humanLabels: JLabel[]
- ~ playedCardLabels: JLabel[]
- ~ humanButtons: JButton[]
- ~ restartButton: JButton
- winnings: Card[]
- losings: Card[]
- wonCards: int
- computerWonCards: int
- + main(String[] args): void
- playRound(Hand humanHand, Hand
- computerHand, int playedHandIndex): void
- humanCardIsHigher(Card computerCard, Card humanCard): boolean
- hideCards(int playerHandIndex): boolean
- showCards(): void
- resetBoard(Hand humanHand): void

### CardGameFramework

- MAX PLAYERS: int
- numPlayers: int
- numPacks: int
- numJokersPerPack: int
- numUnusedCardsPerPack: int
- numCardsPerHand: int
- deck: Deck - hand: Hand[]
- unusedCardsPerPack: Card[]
- + CardGameFramework()
- + CardGameFramework(int numPacks, int numJokersPerPack, int numUnusedCardsPerPack, Card[] unusedCardsPerPack, int numPlayers, int numCardsPerHand)
- + getHand(int k): Hand
- + getCardFromDeck() : Card
- + getNumCardsRemainingInDeck(): int
- + newGame(): void
- + deal(): boolean
- + sortHands(): boolean
- ~ playCard(int playerIndex, int cardIndex) : Card
- + takeCard(int playerIndex): boolean

#### **GUICard**

- cardSuit: String[]
- iconCards: Icon[][]
- iconBack: Icon
- ~ iconsLoaded: boolean
- + GUICard()
- ~ loadCardIcons(): void
- getFileNames(): String[][]
- ~ turnIntIntoCardValue(int k) : String
- ~ turnIntIntoCardSuit(int j) : String
- valueAsInt(Card card): int
- suitAsInt(Card card) : int
- + getIcon(Card card) : Icon
- + getBackCardIcon() : Icon

#### Card

- value: char
- errorFlag: boolean
- suit: Suit
- + cardValues: char[]
- + valueRanks: char[1
- + Card()
- + Card(char value, Suit suit)
- + getSuit(): Suit
- + getValue(): char
- + getErrorFlag(): boolean
- + toString(): String
- + set(char value, Suit suit): boolean
- ~ arraySort(Card[] cards, int arraySize) : void
- findValueRankIndex(char cardValue) : int
- + equals(Card card) : boolean
- isValid(char value, Suit suit) : boolean

#### Hand

- + MAX CARDS: int
- myCards: Card[]
- numCards: int
- + Hand()
- + resetHand(): void
- + getNumCards(): int
- + takeCard(Card card): boolean
- + playCard(): Card
- + inspectCard(int k) : Card
- + toString(): String
- + sort(): void

#### <<enumeration>> Suit

CLUBS **DIAMONDS HEARTS SPADES** 

#### Deck

- + MAX CARDS: int
- masterPack: Card[]
- cards: Card∏
- topCard: int
- numPacks: int
- + Deck()
- + Deck(int numPacks)
- + getTopCard(): int
- + init(int numPacks): void
- + shuffle(): void
- + dealCard(): Card
- + inspectCard(int k) : Card
- allocateMasterPack(): void
- + addCard(Card card) : boolean
- + removeCard(Card card): boolean
- + sort(): void
- + getNumCards() : int

## **JFrame**



## CardTable

~ MAX\_CARDS\_PER\_HAND: int ~ MAX\_PLAYERS: int - numCardsPerHand: int

- numPlayers: int + pnlComputerHand: JPanel + pnlHumanHand: JPanel + pnlPlayArea: JPanel

+ CardTable(String title, int numCardsPerHand, int

numPlayers)
+ getNumCardsPerHand(): int
+ getNumPlayers(): int