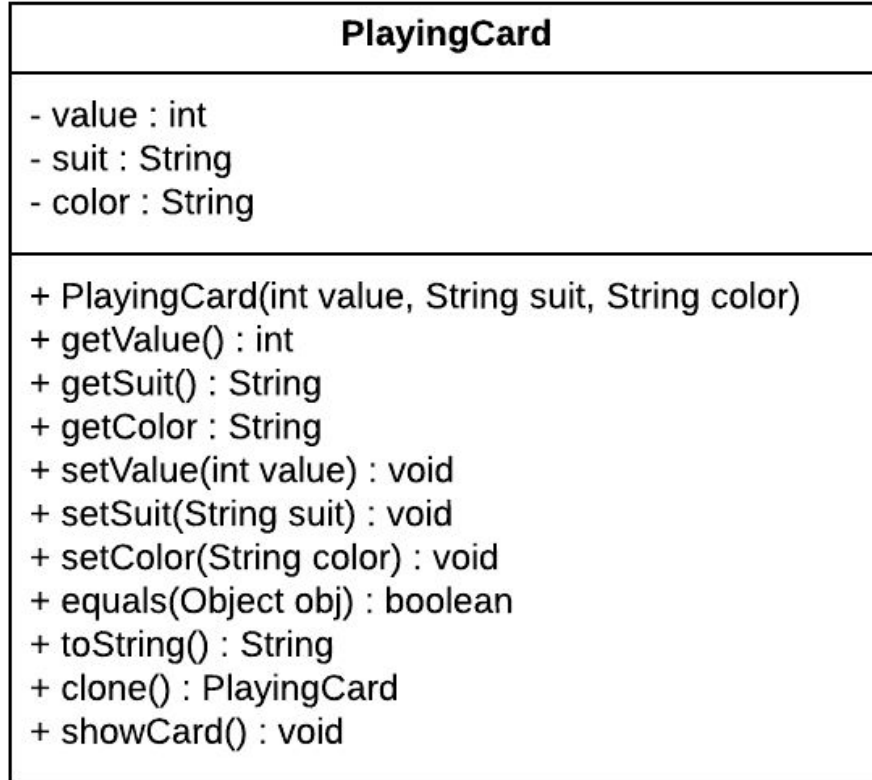
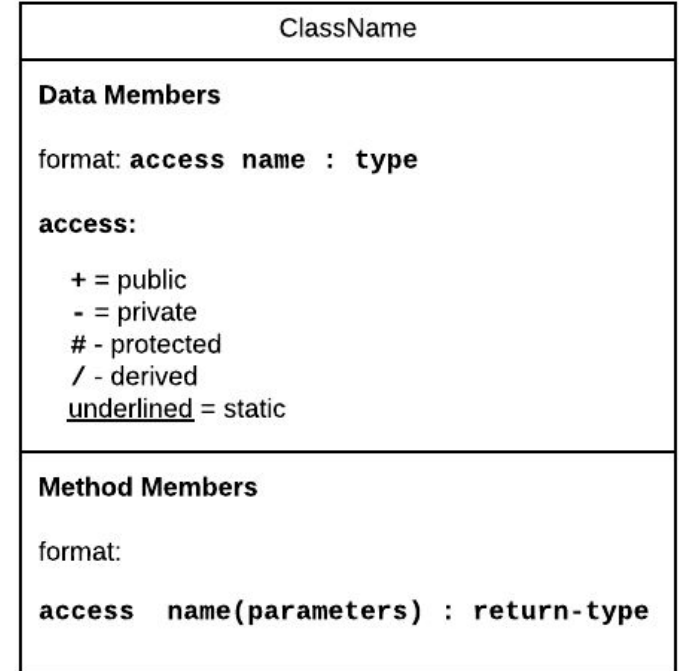


# Inheritance Examples Using the PlayingCard Class

# UML Class Diagram Overview



## Legend



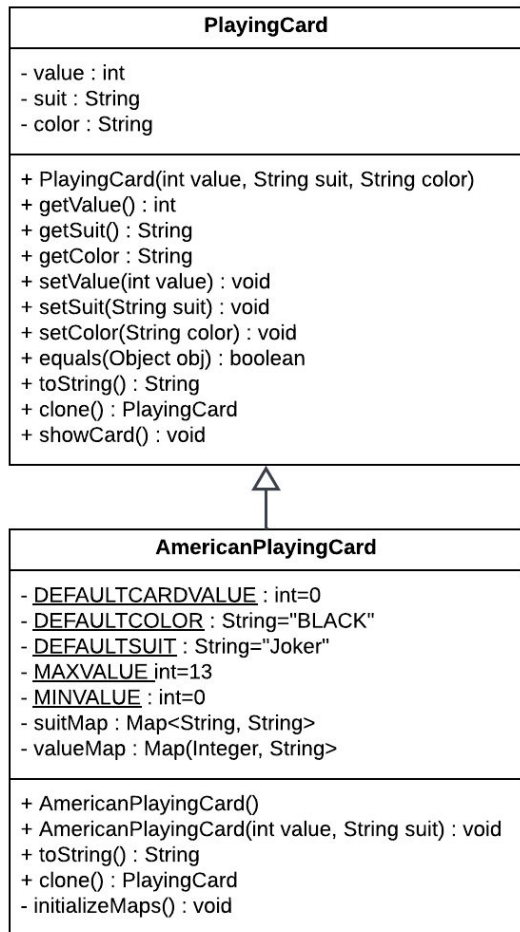
# PlayingCard Class

PlayingCard
- value : int - suit : String - color : String
+ PlayingCard(int value, String suit, String color) + getValue() : int + getSuit() : String + getColor() : String + setValue(int value) : void + setSuit(String suit) : void + setColor(String color) : void + equals(Object obj) : boolean + toString() : String + clone() : PlayingCard + showCard() : void

A PlayingCard has:

- A value
- A suit
- A color
- A 3-arg constructor that takes a value, suit and color
- The standard getters and setters
- A showCard() method to display the attributes
- A toString() method to convert the values to a String
- An equals() method to determine if two PlayingCard objects have the same value, suit and color
- A clone() method to make a copy of a PlayingCard

# AmericanPlayingCard Class



An AmericanPlayingCard **is** a PlayingCard with:

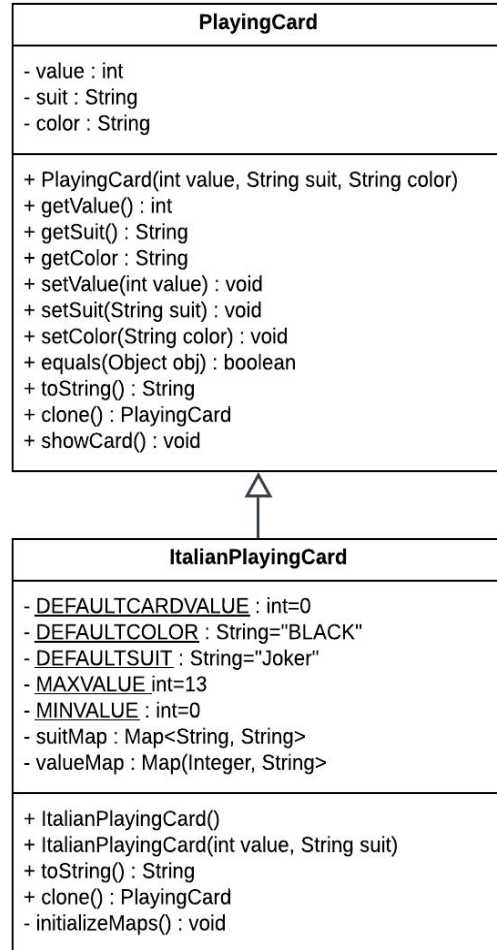
- Default value of 0
- Default suit of “Joker”
- Default color of “Black”
- A maximum value of 13
- A minimum value of 0
- A suitMap() used to validate suits and colors
  - Suits/Colors are: SPADES/BLACK, CLUBS/BLACK, HEARTS/RED, DIAMONDS/RED
- A valueMap to convert values to corresponding String
- A 2-arg constructor that takes a value, suit
- The standard getters and setters
- A clone() method to make a copy of an AmericanPlayingCard
- An initializeMaps() method to initialize the suitMap and valueMap with the valid values

# Italian (*Scopa*) Playing Cards



- Values:
  - 1 to 7, 10, "Fante", "Cavallo", "Re"
- Suits/Colors are:
  - COINS - Yellow
  - CUPS - Blue
  - SWORDS - Red
  - BATONS - Black

# ItalianPlayingCard Class



An ItalianPlayingCard is a PlayingCard with:

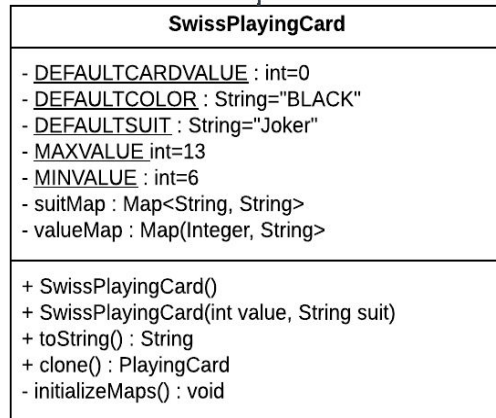
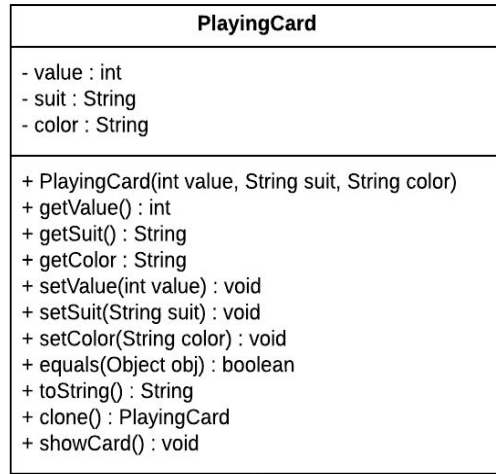
- Default value of 0
- Default suit of "Joker"
- Default color of "Black"
- A maximum value of 13 Note: There are no 8's or 9's
- A minimum value of 0
- A suitMap() used to validate suits and colors
  - Suits/Colors are: COINS/YELLOW, CUPS/BLUE, SWORDS/RED, BATONS/BLACK
- A valueMap to convert values to corresponding String
  - 11="Fante", 12="Cavallo", 13="Re"
- A 2-arg constructor that takes a value, suit
- The standard getters and setters
- A clone() method to make a copy of an ItalianPlayingCard
- An initializeMaps() method to initialize the suitMap and valueMap with the valid values

# Swiss Playing Cards



- Values:
  - 6 to 9, "Banner", "Under", "Ober", "König"; 1 - "As"
- Suits/Colors are:
  - BALLS - Yellow
  - ACORNS - Green
  - ROSES - Red
  - SHIELDS - Black

# SwissPlayingCard Class



An SwissPlayingCard is a PlayingCard with:

- Default value of 0
- Default suit of "Joker"
- Default color of "Black"
- A maximum value of 13
- A minimum value of 6 (except 1 is allowed))
- A suitMap() used to validate suits and colors
  - Suits/Colors are: BALLS/YELLOW, SHIELDS/BLACK, ROSES/RED, ACORNS/GREEN
- A valueMap to convert values to corresponding String
  - 1="As, 10="Banner", 11="Under", 12="Ober", 13="König"
- A 2-arg constructor that takes a value, suit
- The standard getters and setters
- A clone() method to make a copy of an SwissPlayingCard
- An initializeMaps() method to initialize the suitMap and valueMap with the valid values