I. Use Case Diagrams

|  |  |
| --- | --- |
| Use case name: | Initialize game |
| Entry condition: | Game has not yet started |
| Exit Condition: | Deck is shuffled and five cards dealt to five columns; score set to zero and number of left cards is set to 47; number of cards on each column is set to one; number of cards on waste pile is set to 0 |
| Flow of events: | 1. Player requests to initialize game  2. Variation starts in fresh state |

|  |  |
| --- | --- |
| Use case name: | Remove cards |
| Entry condition: | There are kings and pair of cards that total 13 on the top of columns |
| Exit Condition: | Add one to score; number of cards on the column being removed decreases by one; number of cards of waste pile is increased by one if a king is selected, otherwise two |
| Flow of events: | 1. Player selects king or pair of cards that total 13  2. The card(s) selected being removed to the waste pile |

|  |  |
| --- | --- |
| Use case name: | Move card |
| Entry condition: | There is a column with no cards |
| Exit Condition: | Number of cards of the column being removed decreases by one; number of cards of the empty pile increases by one |
| Flow of events: | 1. Player moves a card from a pile to another empty pile  2. The card selected is being moved |

|  |  |
| --- | --- |
| Use case name: | Deal five cards |
| Entry condition: | There are more than five cards in the deck |
| Exit Condition: | Number of cards on all columns increases by one; number of cards left in the deck decreases by five |
| Flow of events: | 1. Player requests deal cards  2. Five cards are dealt to the five columns |

|  |  |
| --- | --- |
| Use case name: | Deal last two cards |
| Entry condition: | There are only two cards in the deck |
| Exit Condition: | Number of cards on first two columns increases by one; number of cards left in the deck is set to zero |
| Flow of events: | 1. Player requests deal cards  2. Two cards are dealt to the first two columns |

|  |  |
| --- | --- |
| Use case name: | Win game |
| Entry condition: | Number of cards left in the deck is zero; Number of cards in all columns is zero; game score is 28; waste pile has 52 cards |
| Exit Condition: | Game is complete |
| Flow of events: | 1. Player selects the last two cards on all five piles  2. Game completes |

\*Since there is only one player, all the participating actors are initialized by the player