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clc
clear
%% Establishing the Deck
% TO DISPLAY PICTURES ON A MAC OS TYPE "figure", BEFORE ALL "imshow"
COMMANDS
%The Card Deck is Loaded into the workspace for use in displaying cards

fprintf('\n Welcome to War')
fprintf('\n')
fprintf('\n Press Any Key to Begin the Game')
pause;
load('CardDeck')

%The Deck is 52 cards and is shuffled
Deck = randperm(52);

%The Computer is given a hand, of 26 cards
ComputerHand = Deck(1:25);

%The User is given a hand of 26 cards as well
UserHand = Deck(26:52);

%User Score and Computer Score is Set and is used in tandem with adding/subtracting values
%from vectors to display the users amount of cards easier
UserScore = 26;

ComputerScore = 26;

%% Establishing Card values and the While Loop
% A while loop is used to continue the game until the user or computer runs out of cards.

while UserScore > 0 && ComputerScore > 0

%Random Values are selected from each hand
User = datasample(UserHand,1);

Computer = datasample(ComputerHand,1);

%Secondary Values are set to display the correct card from the BlueDeck
%Vector
ComValue = Computer;

UserValue = User;

% The Actual Values of the cards are set using two large if statements
if Computer == 1 || Computer == 2 || Computer == 3 || Computer == 4

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    Computer = 14;
elseif Computer == 5 || Computer == 6 || Computer == 7 || Computer == 8
    Computer = 2;
elseif Computer == 9 || Computer == 10 || Computer == 11 || Computer == 12
    Computer = 3;
elseif Computer == 13 || Computer == 14 || Computer == 15 || Computer == 16
    Computer = 4;
elseif Computer == 17 || Computer == 18 || Computer == 19 || Computer == 20
    Computer = 5;
elseif Computer == 21 || Computer == 22 || Computer == 23 || Computer == 24
    Computer = 6;
elseif Computer == 25 || Computer == 26 || Computer == 27 || Computer == 28
    Computer = 7;
elseif Computer == 29 || Computer == 30 || Computer == 31 || Computer == 32
    Computer = 8;
elseif Computer == 33 || Computer == 34 || Computer == 35 || Computer == 36
    Computer = 9;
elseif Computer == 37 || Computer == 38 || Computer == 39 || Computer == 40
    Computer = 10;
elseif Computer == 41 || Computer == 42 || Computer == 43 || Computer == 44
    Computer = 11;
elseif Computer == 45 || Computer == 46 || Computer == 47 || Computer == 48
    Computer = 12;
elseif Computer == 49 || Computer == 50 || Computer == 51 || Computer == 52
    Computer = 13;
end
if User == 1 || User == 2 || User == 3 || User == 4
    User = 14;
elseif User == 5 || User == 6 || User == 7 || User == 8
    User = 2;
elseif User == 9 || User == 10 || User == 11 || User == 12
    User = 3;
elseif User == 13 || User == 14 || User == 15 || User == 16
    User = 4;
elseif User == 17 || User == 18 || User == 19 || User == 20
    User = 5;
elseif User == 21 || User == 22 || User == 23 || User == 24
    User = 6;
elseif User == 25 || User == 26 || User == 27 || User == 28
    User = 7;
elseif User == 29 || User == 30 || User == 31 || User == 32
    User = 8;
elseif User == 33 || User == 34 || User == 35 || User == 36
    User = 9;
elseif User == 37 || User == 38 || User == 39 || User == 40
    User = 10;
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elseif User == 41 || User == 42 || User == 43 || User == 44
    User = 11;
elseif User == 45 || User == 46 || User == 47 || User == 48
    User = 12;
elseif User == 49 || User == 50 || User == 51 || User == 52
    User = 13;
end

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%The Enemies card is displayed first to build tenstion
fprintf('\n The Enemy Plays a %0.0f', Computer)

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imshow([BlueDeck{ComValue}]);

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% The User is Prompted to play a card
fprintf('\n Press Any Key to Play a Card')

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pause;
fprintf('\n')
fprintf('\n')

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%The User card is Displayed
fprintf('Our Army Deploys a %0.0f', User)

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imshow([BlueDeck{UserValue}]);

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pause;
fprintf('\n Press any Key to Continue')

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fprintf('\n')

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%% Comparing Card Values

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if Computer > User

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    % User Score loses one if computer is > User, and Computer gains one
    % point
    ComputerScore = ComputerScore + 1;

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    UserScore = UserScore - 1;

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    fprintf('The Enemy has won this battle!')

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    % The values of the user/computer cards are added to the computers
    % hand, so they may be played again.
    ComputerHand = [ComputerHand, User];

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% The lower card used by the User is deleted from its vector.
UserHand(User) = [];

Army = UserScore;
fprintf('\n')
% the amount of cards the user has left is displayed
fprintf('\n We have %0.0f Troops left', Army)

fprintf('\n')

fprintf('We have Lost the Battle, But Not the War!')
fprintf('\n')

fprintf('\n Press Any Key to Continue')

pause;

fprintf('\n')

% The same processes are used for when the user wins
elseif User > Computer

ComputerScore = ComputerScore - 1;

UserScore = UserScore + 1;

fprintf('\n WE HAVE WON THIS BATTLE!')

UserHand = [UserHand, Computer];

ComputerHand(Computer) = [];

Army = UserScore ;

fprintf('\n We have reclaimed soldiers and have %0.0f Troops left', Army)

fprintf('\n')
pause;
fprintf('\n Press Any Key to Continue')
fprintf('\n')

elseif User == Computer
% If there is a tie, a gif is displayed.

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    winopen('War.gif')
    fprintf('Sir There is a tie and The Battle Rages On. Hopefully our Troops Hold Firm!')
    fprintf('\n Press any Key to Continue')
    pause;

    % Three cards are taken out, but not displayed as per war rules
    UserTie = datasample(UserHand,3);

    ComputerTie = datasample(ComputerHand,3);

    UserTieBreaker = datasample(UserHand,1);

    % a fourth card is taken out and will be used to evaluate the tie
    ComputerTieBreaker = datasample(ComputerHand,1);

    ComTieValue = ComputerTieBreaker;
    UserTieValue = UserTieBreaker;
    % Card Values Are set for these new tie-specific variables
    if ComputerTieBreaker == 1 || ComputerTieBreaker == 2 || ComputerTieBreaker == 3 ||
ComputerTieBreaker == 4
        ComputerTieBreaker = 14;
    elseif ComputerTieBreaker == 5 || ComputerTieBreaker == 6 || ComputerTieBreaker == 7 ||
ComputerTieBreaker == 8
        ComputerTieBreaker = 2;
    elseif ComputerTieBreaker == 9 || ComputerTieBreaker == 10 || ComputerTieBreaker == 11 ||
ComputerTieBreaker == 12
        ComputerTieBreaker = 3;
    elseif ComputerTieBreaker == 13 || ComputerTieBreaker == 14 || ComputerTieBreaker == 15
|| ComputerTieBreaker == 16
        ComputerTieBreaker = 4;
    elseif ComputerTieBreaker == 17 || ComputerTieBreaker == 18 || ComputerTieBreaker == 19
|| ComputerTieBreaker == 20
        ComputerTieBreaker = 5;
    elseif ComputerTieBreaker == 21 || ComputerTieBreaker == 22 || ComputerTieBreaker == 23
|| ComputerTieBreaker == 24
        ComputerTieBreaker = 6;
    elseif ComputerTieBreaker == 25 || ComputerTieBreaker == 26 || ComputerTieBreaker == 27
|| ComputerTieBreaker == 28
        ComputerTieBreaker = 7;
    elseif ComputerTieBreaker == 29 || ComputerTieBreaker == 30 || ComputerTieBreaker == 31
|| ComputerTieBreaker == 32
        ComputerTieBreaker = 8;
    elseif ComputerTieBreaker == 33 || ComputerTieBreaker == 34 || ComputerTieBreaker == 35
|| ComputerTieBreaker == 36
        ComputerTieBreaker = 9;

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elseif ComputerTieBreaker == 37 || ComputerTieBreaker == 38 || ComputerTieBreaker == 39
|| ComputerTieBreaker == 40
    ComputerTieBreaker = 10;
elseif ComputerTieBreaker == 41 || ComputerTieBreaker == 42 || ComputerTieBreaker == 43
|| ComputerTieBreaker == 44
    ComputerTieBreaker = 11;
elseif ComputerTieBreaker == 45 || ComputerTieBreaker == 46 || ComputerTieBreaker == 47
|| ComputerTieBreaker == 48
    ComputerTieBreaker = 12;
elseif ComputerTieBreaker == 49 || ComputerTieBreaker == 50 || ComputerTieBreaker == 51
|| ComputerTieBreaker == 52
    ComputerTieBreaker = 13;
end
if UserTieBreaker == 1 || UserTieBreaker == 2 || UserTieBreaker == 3 || UserTieBreaker == 4
    UserTieBreaker = 14;
elseif UserTieBreaker == 5 || UserTieBreaker == 6 || UserTieBreaker == 7 || UserTieBreaker
== 8
    UserTieBreaker = 2;
elseif UserTieBreaker == 9 || UserTieBreaker == 10 || UserTieBreaker == 11 ||
UserTieBreaker == 12
    UserTieBreaker = 3;
elseif UserTieBreaker == 13 || UserTieBreaker == 14 || UserTieBreaker == 15 ||
UserTieBreaker == 16
    UserTieBreaker = 4;
elseif UserTieBreaker == 17 || UserTieBreaker == 18 || UserTieBreaker == 19 ||
UserTieBreaker == 20
    UserTieBreaker = 5;
elseif UserTieBreaker == 21 || UserTieBreaker == 22 || UserTieBreaker == 23 ||
UserTieBreaker == 24
    UserTieBreaker = 6;
elseif UserTieBreaker == 25 || UserTieBreaker == 26 || UserTieBreaker == 27 ||
UserTieBreaker == 28
    UserTieBreaker = 7;
elseif UserTieBreaker == 29 || UserTieBreaker == 30 || UserTieBreaker == 31 ||
UserTieBreaker == 32
    UserTieBreaker = 8;
elseif UserTieBreaker == 33 || UserTieBreaker == 34 || UserTieBreaker == 35 ||
UserTieBreaker == 36
    UserTieBreaker = 9;
elseif UserTieBreaker == 37 || UserTieBreaker == 38 || UserTieBreaker == 39 ||
UserTieBreaker == 40
    UserTieBreaker = 10;
elseif UserTieBreaker == 41 || UserTieBreaker == 42 || UserTieBreaker == 43 ||
UserTieBreaker == 44
    UserTieBreaker = 11;
```

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elseif UserTieBreaker == 45 || UserTieBreaker == 46 || UserTieBreaker == 47 ||
UserTieBreaker == 48
    UserTieBreaker = 12;
elseif UserTieBreaker == 49 || UserTieBreaker == 50 || UserTieBreaker == 51 ||
UserTieBreaker == 52
    UserTieBreaker = 13;
end

fprintf('\n The Enemy Plays a %0.0f', ComputerTieBreaker)

imshow([RedDeck{ComTieValue}]);

fprintf('\n')

fprintf('\n Press Any Key to Play a Card')

pause;

fprintf('\n')

fprintf('Our Army Deploys a %0.0f', UserTieBreaker)

imshow([RedDeck{UserTieValue}]);

fprintf('\n Press any Key to Continue')

fprintf('\n')
% If a tie results in another tie, the first tie is void and the cycle
% begins again
if ComputerTieBreaker == UserTieBreaker

    ComputerTieBreaker = Computer;

    UserTieBreaker = User;
% The same steps are taken for the tie as are used above in the
% usual case, except 5 is added to the score, and for each had, the
% original card played, the 3 tie cards, and the final tie breaker
% card is added to the winners hand, and deleted from the losers
% hand
elseif ComputerTieBreaker > UserTieBreaker

    fprintf('\n The Enemy Overpowered us. We have lost 5 troops')

    ComputerScore = ComputerScore + 5;

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    UserScore = UserScore - 5;

    ComputerHand = [ComputerHand, UserTieBreaker, UserTie];
    UserHand = UserTie[]

    fprintf('\n We Have %0.0f Troops Left', UserScore)

;

else
    UserScore = UserScore + 5;
    ComputerScore = ComputerScore - 5;
    UserHand = [UserHand, ComputerTieBreaker, ComputerTie];

    fprintf('\n We have destroyed the enemy. 5 troops were gained')

    fprintf('\n We Have %0.0f Troops Left', UserScore)

    fprintf('\n')

    fprintf('\n Press Any Key To Continue')

    pause;
end
end
end
% The end displays pictures based on whether the user won, or lost.
if UserScore <= 0

    fprintf('\n')

    fprintf('Sir Our Troops Are Defeated, We Have to Surrender')

    fprintf('\n')

    fprintf('\n Press any key to Surrender')

    pause;

    imshow('WhiteFlag.png')

elseif ComputerScore <= 0

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fprintf('\n')  
fprintf('Sir We Have Defeated The Enemy, They Are Retreating!')  
fprintf('\n')  
imshow('Victory.jpg')  
end
```