SHAM**21 –** Pseudocode

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**World Variables**

rounds = number, rounds entered and looped by player

computerScore = number, stores the rounds score

playerScore = number, stores the rounds score

computerTotal = number, stores the computer’s score

playerTotal = number, stores the player’s score

i = number, for loop counter in main program

aceInput = number, user enters to indicate desired ace value

cardCounter = number, keeps track of cards to 5

playerContinue = Boolean, while loop for repeating player’s rounds

computerContinue = Boolean, while loop for repeating computer’s round

randomCard = function, delivers random card

randomSuit = function, delivers a random suit

cardValue = function, converts randomCard to actual score

**Main Program**

Explain Instructions

Ask user for number to be set as *round* variable

Loop using counter *i* from 0 to *round* variable

While *playerContinue* boolean is true

Perform *randomCard* function and increment *cardCounter* by 1

Perform *randomSuit* function

Perfrom *cardValue* function

If *cardValue* return = 1

Output “What would you like your ace value to be, Enter 1 or 11”

User inputs their desired value as *aceInput*

If *aceInput* = 1

Set *cardValue* to 1

Else If *aceInput* = 11

Set *cardValue* to 11

End if

End if

Add *cardValue* to *playerTotal*

Output the card (*randomCard* + *randomSuit*)

Output the amount of cards user played this round (*cardCounter*)

Output user’s points (*playerTotal*)

Output “Press enter to continue, Otherwise press q to quit, or press H to hold”

If user enters “q”

Break and *i* = *rounds* and *computerContinue* to false (end for loop)

Reset *cardCounter* = 0

Else if user enters “h”

Break and move on to while *computerContinue*

Reset *cardCounter* = 0

End if

If *playerTotal* is 21 or *cardCounter* = 5 and *playerTotal* score is < 21

*playerTotal* = win

Reset *cardCounter* to 0

Set *playerContinue* = false

Break loop and set *computerContinue* = false

Else if *playerTotal* > 21

*computerTota*l = win

Reset *cardCounter* to 0

Set *playerContinue* = false

Break loop and set *computerContinue* = false

End if

End While

While *computerContinue* Boolean is true

Perform *randomCard* function and increment *cardCounter* by 1

Perform *randomSui*t function

Perform *cardValue* function

If *cardValue* return = 1

If *computerTotal* + 11 > 21

Set *cardValue* = 1

Else

Set *cardValue* = 11

End if

End if

Add cardValue to *computerTotal*

Output the card (*randomCard* + *randomSuit*)

Output the amount of cards computer played (*cardCounter*)

Output computer’s points (*computerTotal*)

Output “Press enter to continue, Otherwise press q to quit”

If q

Break loop and *i* = *rounds* and *computerContinue* to false

End if

If *computerTotal* is 21 or *cardCounter* is = 5 and *computerTotal* <21

Set *computerTotal* = win

Reset *cardCounter* to 0

Break loop

Set *computerContinue* to false

Else If *computerTotal* > 21

playerTotal = win

Reset cardCounter to 0

Break loop and set computerContinue = false

End if

Output the total for the round

Output “Press enter to continue, Otherwise press q to quit”

If q

Break loop and *i* = *rounds*

End if

If *playerTotal* = win

Output “Player wins this round”

Increment *playerScore* by 1

Set *playerContinue* and *computerContinue* to true

Else if *computerTotal* = win

Output “Computer wins this round”

Increment *computerScore* by 1

Set *playerContinue* and *computerContinue* to true

Else if both *playerTotal* and *computerTotal* = “win”

Output “You Tied, No points will be awarded”

Set *playerContinue* and *computerContinue* to true

Else if *computerTotal* > *playerTotal*

Output “Computer wins this round”

Increment *computerScore* by 1

Set *playerContinue* and *computerContinue* to true

Else if *computerTotal* < *playerTotal*

Output “Player wins this round”

Increment *playerScore* by 1

Set *playerContinue* and *computerContinue* to true

Else if *computerTotal* = *playerTotal*

Output “You Tied, No points will be awarded”

Set *playerContinue* and *computerContinue* to true

End if

End For Loop

If *playerScore* > *computerTotal*

Output “You Win”

Else if *playerScore* = *computerScore*

Output “You Tied”

Else

“Output You Lose”

End if

**randomCard Function**

**Local Variables**

Number = number, random number received

receive random *number* between (1 and 13)

if *number* =1

return “A”

else if *number* = 11-13

if *number* = 11

return “J”

else if *number* = 12

return “Q”

else

return “K”

end if

else

return *number*

end if

**cardValue Function**

**Local Variables**

randomCard = string, random card that is received from randomCard function

receive string *randomCard* from randomCardfunction

if *randomCard* = J, K, Q

return 10

else if *randomCard* is “A”

return 1

else

return *randomCard*

End if

**randomSuit Function**

**Local Variables**

Number = number, random number received

receive random *number* between (1, 4)

If *number* = 1

return “C”

else if *number* = 2

return “D”

else if *number* = 3

return “H”

else

Return “S”

End if