10 + 10 GAME REPORT

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In 10 + 10 game it seems that if Bob follows the table then he must insure win.

About program :

The programming lang. used for coding the 10 + 10 game is python. At the start of program we import random function library.

First we initialize bob’s winning recipe formula. 2D list as data structure used for its implantation.

Moves function takes Move value as a string, Pile A and Pile B as list, length of Pile A and Pile B as Integer. Moves function pop one items from Pile A or Pile B as per instruction/ move value. if move value is “\*” then random function is called to give random value between 1-3 which means whatever you do another person is going to win so Bob chose his move randomly, if move value == "1" or move value == "|" then pick rock from Pile A we pop one item from list pile A and minus 1 its length. if move value == "2" or move value == "-" then pick rock from Pile B. we pop one item from list pile B and minus 1 its length and if move value == '3' or move value == "/" then we pick rock from both pile so we pop one Item from both list Pile A and Pile B and minus both its length by 1. Moves function return the list Pile A and Pile B, and integer length of Pile A and Pile B.

Function Ten\_plus\_Ten takes input from command line as integer between 1-3 which decided the moves for First player then some initialization is there that is i=0 for keeping track who wins at end Pile A and Pile B as list of 10’s 0 in it which represent rocks in pile. Then length variable for both pile.

While loop is used which terminate when the last rock is pick/ both list is empty. Inside the while loop we first take input Alice as integer which is between 1-3 the we call Moves function by passing parameters and storing the result in Pile\_A,Pile\_B,len\_Pile\_A,len\_Pile\_B which are modifies as per move value decided by Alice/user then i is assign to zero. Bob variable is assigned for move value which come from winning recipe 2D list by using length of pile A and length of Pile B as indices after that Moves function is call and same process is repeat for bob turn as per Alice. The modified list of Pile A and B is printed at every iteration of while loop. While loop continues till both list are empty. Finally by using ‘i’ variable value we decide who wins, if I = 0 then Alice wins but if I = 1 then Bob’s wins.

Calling Function Ten\_plus\_Ten.

What happens for n+n ?

>> It seems from the examples that if n if EVEN then we just have to follow same move that first player play. so second player must win if n is EVEN

However if n is odd the first player must pick rock from both pile and then follow another player move to insure WIN.