RECOMP II USERS' PROGRAM NO. 1032

PROGRAM TITLE: DEMONSTRATION PROGRAM - GAME OF CRAPS (DICE)

PROGRAM CLASSIFICATION: Demonstration Routine

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PURPOSE: To provide a demonstration for the RECOMP II computer
                          showing the decision capabilities and input/output
                          flexibility of the computer.

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Program Title: Demonstration Program - Game of Craps (Dice).

Purpose: To provide a demonstration for the Recomp-II computer showing the decision capabilities and input/output flexability of the computer.

Method: Two random numbers between 1 and 6 are generated every time a roll of the dice is called for. Then every bet that is active is checked to see if the combination of these two numbers will win or lose that bet.

Location: Storage requirements are 1300 (octal) + N words, where N is the number of bets that are active at one time (usually 76 octal words are enough). Locations 0000, 0001, 0002, and 0003 are also used. Program starts at location 0100.0.

Procedure:
1. Start the program at location 0100.0.

2. When the display tubes start twinkling, stop the computer and press pre-set-start switch 1, 2, or 3.

3. Pre-set-start 1 will cause the dice to be shaken (on the display tubes), rolled down the console, and displayed and typed. All active bets are then checked and those that this combination of dice would cause a win or loss are typed, giving the bettor's number, the amount won or lost, and the total amount won or lost by that player to date.
   example: 4.2

   3 $15.00 (-$7.25)
   1 -$75.21 (-$2753.63)
   etc.

4. Pre-set-start 2 will enable bets to be made by all players desiring to do so. Any one player can make as many bets and as many different kind of bets as he wishes. Up to 9 players can make bets and the computer will keep track of each player's total winnings or losses. To enter each bet, follow this procedure:
   a. Press pre-set-start switch no. 2. The display pannel will show;   ..0
   b. From the console keyboard, enter your player number (1 thru 9). This number will then be displayed along with two additional zeros in the format;   ..X   00
   c. Using the table at the end of this description as a guide, enter the two digit number representing the desired bet. The display tubes will now show;   ..X   XX   00.00
   d. Now enter the amount you wish to wager on this bet (from 1 cent to $99.99).
   e. If an error is made at any time, press the clear key and start from step b again. Otherwise, press the enter key to record your bet. A verification of your bet will be typed for your record.
   f. Repeat steps a thru e until all bets are entered.

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5. Pre-set-start 3 will cause the typewriter to print the financial status of all players at that time (except when sense switch C on on or down).

6. To clear the board of all bets and reset all player's winnings to zero, restart this program at its initial location, 0100.0.

7. The game will proceed much faster if a hard copy of each bet and dice throw is not desired.
      a. Sense Switch B will eliminate typing of all bet entries.
      b. Sense Switch C will eliminate typing of all cash payments after bets are won or lost.
      c. Sense Switch D will eliminate typing of all dice throws.

Error displays:

-.......1   will be displayed if a bet not listed on the bet table is attempted.

-......2   will be displayed if an odds bet is attempted following a dice throw of 2, 3, 7, 11, or 12 (no point was made).

Notes:

1. Notice that almost all bets depend on the next throw of the dice. Therefore, it makes no difference who is throwing the dice or when he started to throw. Those bets that are not decided in one throw of the dice are carried on until they either win or loose. At the same time, additional bets may be made before any dice throw.

2. The rules and odds used in this demonstration are almost identical to those used at the Horseshoe Club in Las Vegas, Nevada.

3. A test for proper distribution was run on the randomizer used in this demonstration and the results are shown below.

Number of dice throws: 10,000.
D = number of points showing on the dice.
T = Theoretical no. of times that no. should show.
A = Actual no. of times that number did show.

D	2	3	4	5	6	7
T	277	555	833	1011	1388	1667
A	268	574	868	1124	1377	1692

D	8	9	10	11	12
T	1388	1011	833	555	277
A	1352	1121	802	551	271

4. This program was written as a demonstration or for amusement only. The writter of this program assumes no legal, moral, or financial obligations that may develop during the operation of this program.

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Table of Bets:

01 __Come bet__ You win if the next roll ot the dice is a 7 or 11, you lose
           if it totals 2,3,or 12. Any other number (4,5,6,8,9,10) is your "poin"
           You win if your "point" is thrown again before a 7 is thrown. You
           lose if a 7 is thrown before your "point". An even money bet.

02 __Don't come bet__ This bet is the exact opposite of a come bet. You lose if
        the next roll of the dice is a 7 or 11, winning is it is a 2, 3, or 12.
        You lose if your "point" is thrown again and win if a 7 is thrown
        after the first throw. An even money bet.

03 __Field bet__ You bet that any of the following numbers come up on the next
        roll; winning even money on 3, 4, 9, 10, or 11, winning 2 to 1 on
        the 2, and winning 3 to 1 on the 12. You lose on a 5, 6, 7, or 8.

04 __4 Place bet__ You bet that a 4 will be thrown before a 7 is thrown.
        Pay-off is 2 to 1.

05 __5 Place bet__ You bet that a 5 will be thrown before a 7 is thrown.
        Pay-off is 3 to 2.

06 __6 Place bet__ You bet that a 6 will be thrown before a 7 is thrown.
        Pay-off is even money.

07 __Any 7 bet__ If a 7 comes up on the next roll, you win at the rate of 4 to 1.
        You lose if any other number is thrown.

08 __8 Place bet__ You bet that an 8 will be thrown before a 7 is thrown.
        Pay-off is even money.

09 __9 Place bet__ You bet that a 9 will be thrown before a 7 is thrown.
        Pay-off is 3 to 2.

10 __10 Place bet__ You bet that a 10 will be thrown before a 7 is thrown.
        Pay-off is 2 to 1.

11 __Odds bet__ You win if the dice total of the previous dice throw is thrown
        again before a 7 is thrown. The pay-off is as follows: 2 to 1 on
        fours or tens; 3 to 2 on fives or nines; 6 to 5 on sixes or eights.
        (An error display will result if trying to make an odds bet after
        a 2, 3, 7, 11, or 12 was thrown.)

12 __Single 2 bet__ You win 30 to 1 if a two is thrown on the next roll of the
        dice. If any other number comes up, you lose.

13 __Single 3 bet__ You win 15 to 1 if a three is thrown on the next roll of the
        dice. If any other number comes up, you lose.

14 __Single 11 bet__ You win 15 to 1 if an eleven is thrown on the next roll of
        the dice. If any other number comes up, you lose.

15 __Single 12 bet__ You win 30 to 1 if a twelve is thrown on the next roll of
        the dice. If any other number comes up, you lose.

16 __Any craps bet__ A single roll bet. You can win 7 to 1 if 2, 3, or 12
        comes up on the next roll. You lose if any other number is thrown.

17 __Hardway 4 bet__ You bet that a four will be thrown with a pair (2,2).
        You lose if the four is thrown any other way - or if a seven is
        thrown before the four comes up. Odds are 7 to 1.

18 __Hardway 6 bet__ You bet that a six will be thrown with a pair (3,3).
        You lose if the six is thrown any other way, or if a seven is
        thrown before the six comes up. Odds are 9 to 1

19 __Hardway 8 bet__ You bet that an eight will be thrown with a pair (4,4).
        You lose if the eight is thrown any other way, or if a seven is thrown
        before the eight comes up. Odds are 9 to 1.

20 __Hardway 10 bet__ You bet that a ten will be thrown with a pair (5,5).
        You lose if the ten is thrown any other way, or if a seven is thrown
        before the ten comes up. Odds are 7 to 1.

M3