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Snake And Ladder

```
#include <stdio.h>
#include <stdlib.h>
#include <time.h>

int Runner1;
int Runner2;

int menu;
int smenu;

int DiceRoll() {
    return rand() % 6 + 1;
}

void SaveData(int position1, int position2) {
    FILE* savefile;
    savefile = fopen("savefile.txt", "w");
    fprintf(savefile, "%d/%d", position1, position2);
    fclose(savefile);
}

void LoadData(int* position1, int* position2) {
    FILE* loadfile;
    loadfile = fopen("savefile.txt", "r");
    fscanf(loadfile, "%d/%d", position1, position2);
    fclose(loadfile);
}
```

```
void printCustomBoardGame() {
    int board[151];
    for (int i = 1; i <= 150; i++) {
        board[i] = i;
    }

    int alt = 0;
    int iterLR = 151;
    int iterRL = 130;
    int val = 150;

    while (val--) {
        if (alt == 0) {
            iterLR--;
            if (iterLR == Runner1) {
                printf("R#1  ");
            }
            else if (iterLR == Runner2) {
                printf("R#2  ");
            }
            else
                printf("%d  ", board[iterLR]);

            if (iterLR % 10 == 1) {
                printf("\n\n");
                alt = 1;
                iterLR -= 10;
            }
        }
        else {
            iterRL++;
```

```
            if (iterRL == Runner1) {
                printf("R#1  ");
            }
            else if (iterRL == Runner2) {
                printf("R#2  ");
            }
            else
                printf("%d  ", board[iterRL]);

            if (iterRL % 10 == 0) {
                printf("\n\n");
                alt = 0;
                iterRL -= 30;
            }
        }
        if (iterRL == 10)
            break;
    }
    printf("\n");
}

int movePlayer(int currentPlayer, int roll)
{
            int newPosition = currentPlayer + roll;
            int squarePosition[151];
            for (int i = 0; i <= 150; i++) {
                        squarePosition[i] = 0;
            }

    //Ladder
            squarePosition[6] = 15;
```

```
            squarePosition[20] = 23;
            squarePosition[35] = 30;
            squarePosition[45] = 40;
            squarePosition[105] = 31;

            //Snake
            squarePosition[36] = -9;
            squarePosition[49] = -19;
            squarePosition[60] = -20;
            squarePosition[89] = -24;
            squarePosition[120] = -35;

    int moveSquare = newPosition + squarePosition[newPosition];

    if (moveSquare > 150) {
        return currentPlayer;
    }
    return moveSquare;
}

int main() {
    srand(time(0));
    int currentPlayer = 1;
    int winner = 0;

    printf("Welcome to Snake and Ladder Board Game!!!\n");
    printf("Rule: The position of the ladder: 6, 20, 35, 45, 75 and Snake: 14, 49, 60, 77, 98\n");

    printf("Start New Game or Load Previous Game?\n");
    printf("1.) New Game\n");
    printf("2.) Load Previous Game\n");
```

```
scanf("%d", &menu);

if (menu == 1) {
   Runner1 = 0;
   Runner2 = 0;
} else if (menu == 2) {
   LoadData(&Runner1, &Runner2);
}

while (!winner) {
   printf("\nRunner %d, Please press Enter to roll the dice", currentPlayer);
   getchar();

   int roll = DiceRoll();
   printf("You got number %d.\n\n", roll);

   if (currentPlayer == 1) {
      Runner1 = movePlayer(Runner1, roll);
      printf("Runner 1 is now at square %d.\n\n", Runner1);
      printCustomBoardGame();
   } else {
      Runner2 = movePlayer(Runner2, roll);
      printf("Runner 2 is now at square %d.\n\n", Runner2);
      printCustomBoardGame();

      printf("Quick Save?\n");
      printf("Press 1 Yes\n");
      printf("Press 2 No\n");
      scanf("%d", &smenu);

      if (smenu == 1) {
```

```
            SaveData(Runner1, Runner2);
        }
    }

    if (Runner1 == 150) {
        printf("Congratulation! Runner 1 wins!\n");
        winner = 1;
    }

    if (Runner2 == 150) {
        printf("Congratulation! Runner 2 wins!\n");
        winner = 1;
    }

    currentPlayer = (currentPlayer == 1) ? 2 : 1;
  }

  return 0;
}
```

Refence snake and ladder: https://www.geeksforgeeks.org/snake-and-ladder-game-in-c/

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