

BVRIT HYDERABAD COLLEGE OF ENGINEERING FOR WOMEN



*Department of CSE Certified that this is a bonafide record of
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Of Class CSE C of Year 1 of Semester 1 in PPS Laboratory

DATE:

SIGNATURE:

PROBLEM STATEMENT:-

As we all are familiar with the concept of the game. In this game, we have two players. In our program, player 1 will be the user, and player 2 will be the computer. Player 1 selects either rock, paper, or scissor. The computer does not know about what player 1 has selected, so the computer randomly selects any item (rock, paper, or scissor).

In this game, each player has 3 turns. The player who gets the point at least two times will win the game. The following are the rules of the game.

rock vs. scissors -> rock wins

paper vs. scissors -> scissors wins

paper vs. rock -> paper wins

Task:-

You have to write a C program that will:

- Allows the user to play this game three times with a computer.
- Log the scores of the computer and the player.
- Display the name of the winner at the end
-

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  #include <time.h>
4
5  int generateRandomNumber(int n){
6      srand(time(NULL)); //srand takes seed as an input and is defined
7      return rand()%n;
8  }
9
10 //Create Rock, Paper & Scissors Game
11 Player 1: rock
12 Player 2 (computer): scissors | I
13 int main()
14 {
15     printf("The random number between 0 to 5 is %d\n", generateRandomNumber(5));
16     return 0;
17 }
```



ROCK PAPER SCISSORS MINI GAME

Note: You have to display the name of the player during the game. Take users name as an input from the user.

This video is a part of the C programming series. If you have not watched the C programming tutorial until now, click on the link below to access the C programming tutorial.

SOURCE CODE

```
#include <math.h>

#include <stdio.h>

#include <stdlib.h>

#include <time.h>


// Function to implement the game
int game(char you, char computer)
{
    // If both the user and computer
    // has choose the same thing
    if (you == computer)
        return -1;


    // If user's choice is stone and
    // computer's choice is paper
    if (you == 's' && computer == 'p')
        return 0;


    // If user's choice is paper and
    // computer's choice is stone
    else if (you == 'p' && computer == 's') return 1;


    // If user's choice is stone and
    // computer's choice is scissor
    if (you == 's' && computer == 'z')
        return 1;


    // If user's choice is scissor and
```

```
// computer's choice is stone  
else if (you == 'z' && computer == 's')  
return 0;
```

```
// If user's choice is paper and  
// computer's choice is scissor  
if (you == 'p' && computer == 'z')  
return 0;
```

```
// If user's choice is scissor and  
// computer's choice is paper  
else if (you == 'z' && computer == 'p')  
return 1;  
}
```

```
// Driver Code  
int main()  
{  
// Stores the random number  
int n;
```

```
char you, computer, result;
```

```
// Chooses the random number  
// every time  
srand(time(NULL));
```

```
// Make the random number less  
// than 100, divided it by 100
```

```
n = rand() % 100;

// Using simple probability 100 is
// roughly divided among stone,
// paper, and scissor
if (n < 33)

// s is denoting Stone
computer = 's';

else if (n > 33 && n < 66)

// p is denoting Paper
computer = 'p';

// z is denoting Scissor
else
computer = 'z';

printf("\n\n\n\n\t\t\tEnter s for STONE, p for PAPER and z for SCISSOR\n\t\t\t\t\t\t\t");

// input from the user
scanf("%c", &you);

// Function Call to play the game
result = game(you, computer);

if (result == -1) {
printf("\n\n\t\t\t\t\tGame Draw!\n");
```

```

}

else if (result == 1) {

printf("\n\n\t\t\tWow! You have won the game!\n");

}

else {

printf("\n\n\t\t\tOh! You have lost the game!\n");

}

printf("\t\t\tYou choose : %c and Computer choose : %c\n",you, computer);

return 0;

}

```

OUTPUTS

The screenshot shows a C program running in an IDE. The code defines a function `game` that takes `you` and `computer` as arguments and returns an integer result. The main function calls `game` and prints the result. The output shows that the user chose 'p' (Paper) and the computer chose 'p' (Paper), resulting in a draw.

```

// Function Call to play the game
result = game(you, computer);

if (result == -1) {
printf("\n\n\t\t\tGame Draw!\n");
}
else if (result == 1) {
printf("\n\n\t\t\tWow! You have won the game!\n");
}
else {
printf("\n\n\t\t\tOh! You have lost the game!\n");
}
printf("\t\t\tYou choose : %c and Computer choose : %c\n",you, computer);
return 0;

```

```

/tmp/ttqicWcuE.o
Enter s for STONE, p for PAPER and z for SCISSOR
p
Game Draw!
YDu choose : p and Computer choose : p

```

The screenshot shows the same C program running in an IDE. The code is identical to the previous one. The output shows that the user chose 'z' (Scissors) and the computer chose 'z' (Scissors), resulting in a draw.

```

12
13 // Function Call to play the game
14 result = game(you, computer);
15
16 if (result == -1) {
17 printf("\n\n\t\t\tGame Draw!\n");
18 }
19 else if (result == 1) {
20 printf("\n\n\t\t\tWow! You have won the game!\n");
21 }
22 else {
23 printf("\n\n\t\t\tOh! You have lost the game!\n");
24 }
25 printf("\t\t\tYou choose : %c and Computer choose : %c\n",you, computer);
26 return 0;

```

```

/tmp/ttqicWcuE.o
Enter s for STONE, p for PAPER and z for SCISSOR
z
Game Draw!
YDu choose : z and Computer choose : z

```

```
main.c  Save Run Output Clear
2
3 // Function Call to play the game
4 result = game(you, computer);
5
6- if (result == -1) {
7     printf("\n\n\t\t\t\t\tGame Draw!\n\n");
8 }
9- else if (result == 1) {
10    printf("\n\n\t\t\t\t\tWow! You have won the game!\n\n");
11 }
12- else {
13    printf("\n\n\t\t\t\t\tOh! You have lost the game!\n\n");
14 }
15    printf("\t\t\t\t\tYou choose : %c and Computer choose :
    %c\n",you, computer);
16    return;
```

```
/tmp/tttqLWcuE.o
Enter s for STONE, p for PAPER and z for SCISSOR
p
Oh! You have lost the game!
You choose : p and Computer choose : z
```

```
ain.c  Save Run Output Clear
// Function Call to play the game
result = game(you, computer);
- if (result == -1) {
    printf("\n\n\t\t\t\t\tGame Draw!\n\n");
}
- else if (result == 1) {
    printf("\n\n\t\t\t\t\tWow! You have won the game!\n\n");
}
- else {
    printf("\n\n\t\t\t\t\tOh! You have lost the game!\n\n");
}
    printf("\t\t\t\t\tYou choose : %c and Computer choose :
    %c\n",you, computer);
```

```
/tmp/tttqLWcuE.o
Enter s for STONE, p for PAPER and z for SCISSOR
p
Game Draw!
You choose : p and Computer choose : p
```

```
main.c  Save Run Output Clear
1
2 // Function Call to play the game
3 result = game(you, computer);
4
5- if (result == -1) {
6     printf("\n\n\t\t\t\t\tGame Draw!\n\n");
7 }
8- else if (result == 1) {
9     printf("\n\n\t\t\t\t\tWow! You have won the game!\n\n");
10 }
11- else {
12    printf("\n\n\t\t\t\t\tOh! You have lost the game!\n\n");
13 }
14    printf("\t\t\t\t\tYou choose : %c and Computer choose :
    %c\n",you, computer);
15    return;
```

```
/tmp/tttqLWcuE.o
Enter s for STONE, p for PAPER and z for SCISSOR
z
Oh! You have lost the game!
You choose : z and Computer choose : s
```

```
main.c  Save Run Output Clear
R2
R3 // Function Call to play the game
R4 result = game(you, computer);
R5
R6- if (result == -1) {
R7    printf("\n\n\t\t\t\t\tGame Draw!\n\n");
R8 }
R9- else if (result == 1) {
R10   printf("\n\n\t\t\t\t\tWow! You have won the game!\n\n");
R11 }
R12- else {
R13   printf("\n\n\t\t\t\t\tOh! You have lost the game!\n\n");
R14 }
R15   printf("\t\t\t\t\tYou choose : %c and Computer choose : %c\n",you
    , computer);
R16   return;
R17 }
--
```

```
/tmp/tttqLWcuE.o
Enter s for STONE, p for PAPER and z for SCISSOR
z
Wow! You have won the game!
You choose : z and Computer choose : p
```


