

```
#include <iostream>
using namespace std;
#include <ctime> //time(NULL)
#include <cstdlib> //rand(), sdrand()
#include "header.h"

int main()
{
    int user, computer; //To store user and computer selections

    //Do while loop to run until someone wins.
    do
    {
        //Running userInput function to get the users number
        user = userInput();
        cout << endl;

        //Running randomNumber function to get the computers pick.
        computer = randomNumber();
        cout << endl;

        //Running winner function to get the winner.
        winner(user, computer);
        cout << endl;

    } while (user == computer);

    return 0;
}
```

```
//Start of new file where all functions are written
```

```
#include <iostream>
#include <ctime> //time(NULL)
#include <cstdlib> //rand(), sdrand()
using namespace std;
#include "header.h"
```

```
/******
```

```
THIS FUNCTION GETS THE COMPUTER SELECTION
```

```
*****/
```

```
int randomNumber()
{
    int random_value; //To store the randome number from the computer.

    srand(time(0));
    random_value = 1+(rand() % 3); //Getting random number from computer,

    //output to console what the computer chose.
    if(random_value == 1)
        cout << "The computer has chosen rock \n";
    else if(random_value == 2)
        cout << "The computer has chosen paper\n";
    else if (random_value == 3)
        cout << "The computer has chosen scissors\n";
    return random_value;
}
```

```
/******
```

```
THIS FUNCTION GETS THE USER SELECTION
```

```
*****/
```

```
int userInput()
{
    int choice; //To store user input
    cout << "Please enter your selection. Enter 1 for rock, enter 2 for paper and enter 3 for
scissors: ";
    cin >> choice;

    //output to console what the user selected
    if(choice == 1)
        cout << "You have chosen rock \n";
    else if(choice == 2)
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        cout << "You have chosen paper\n";
    else if (choice == 3)
        cout << "You have chosen scissors\n";

    return inputValidation(choice);

}

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/*****

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```

THIS FUNCTION DETERMINES THE WINNER

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*****/

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```

void winner(int user, int computer)
{
//Who wins if the user selects rock
    if(user == 1)
    {
        if (computer == 3)
            cout << "You have chosen rock and the computer picked scissors. So you win. ";
        else if (computer == 2)
            cout << "The computer has chosen paper and you have chosen rock. So you lose. ";
        else if(user == computer)
            cout << "The both of you have chosen the same. So the program will run again. Until one
of you win. \n";
    }
}

```

```

//Who wins if the user selects paper
    else if (user == 2)
    {
        if (computer == 1)
            cout << "You chose paper and the computer chose rock. So you lose. ";

        else if (computer == 3)
            cout << "You have chosen paper and the computer picked scissors. So you lose. ";

        else if (user == computer)
            cout << "The both of you have chosen the same. So the program will run again. Until one
of you win. \n";
    }
}

```

```

//Who wins if the user selects scissors
    else if(user == 3)
    {
        if(computer == 1)

```

```

        cout << "You chose scissors and the computer chose rock. So you win ";

    else if(computer == 2)
        cout << "You chose scissors and the computer chose paper. So you win ";

    else if (user == computer)
        cout << "The both of you have chosen the same. So the program will run again. Until one
of you win. \n";
    }

}

```

```

/*****
THIS FUNCTION VALIDATES THE USERINPUT
*****/
int inputValidation(int user_input)
{
    while (cin.fail() || user_input < 0 || user_input > 3)
    {
        cin.clear();
        cin.ignore(5, '\n');
        cout << "Invalid data type. Please don't enter a character, a number less than 1 or greater
than 3. Try again: ";
        cin >> user_input;
    }
    return user_input;
}

```

//Start of new header file where all functions are declared

```

#pragma once
int randomNumber();
int userInput();
void winner(int user, int computer);
int inputValidation(int user_input);

```

