

CALIFORNIA STATE UNIVERSITY, SACRAMENTO
College of Business Administration

MIS 211 - Information Systems II

Function Example

Program

Main Function

```
#include <fstream.h>
#include <iostream.h>
#include <stdlib.h>
#include <iomanip.h>
#include <stdio.h>
#include <time.h>
```

RandGen(int); ← *Function declaration*

```
int main()
//   Declaring variables
{   int rand_num = 0, number_loops = 0,
    limit_num = 0, prev_num = 0;

    while (number_loops < 10)
    {
        number_loops += 1;

        limit_num = 150;

        rand_num = RandGen(limit_num);    ← Function call (return value
                                           placed into rand_num)

//   Example of an in-line IF
    if (rand_num >= 0 && rand_num <= 50)
        cout << "low:  " << setw(3) << rand_num;
    else if (rand_num > 50 && rand_num <=100)
        cout << "mid:  " << setw(3) <<rand_num;
    else
        cout << "high: " << setw(3) <<rand_num;

        cout << "\n";
    }

    number_loops = 0;
    cout << setfill('=') << setw(72) << "\n";
```



```
for (number_loops=1;number_loops < 10;number_loops+=1)
{
    prev_num = rand_num;
    limit_num = 6;

    do
        rand_num = RandGen(limit_num); ← Function call
    while (prev_num == rand_num);

// Example of a Case Structure
switch (rand_num)
{
    case 1:
        cout << "California " << rand_num;
        break;
    case 2:
        cout << "Hawaii " << rand_num;
        break;
    case 3:
        cout << "Nevada " << rand_num;
        break;
    case 4:
        cout << "Oregon " << rand_num;
        break;
    case 5:
        cout << "Washington " << rand_num;
        break;
    default:
        cout << "Not a western state " << rand_num;
        break;
}
cout << "\n";
}

return 0;
}
```



Random Number Generator Function (RandGen)

```
#include <fstream.h>
#include <iostream.h>
#include <stdlib.h>
#include <iomanip.h>
#include <stdio.h>
#include <time.h>

int RandGen(int high_num)

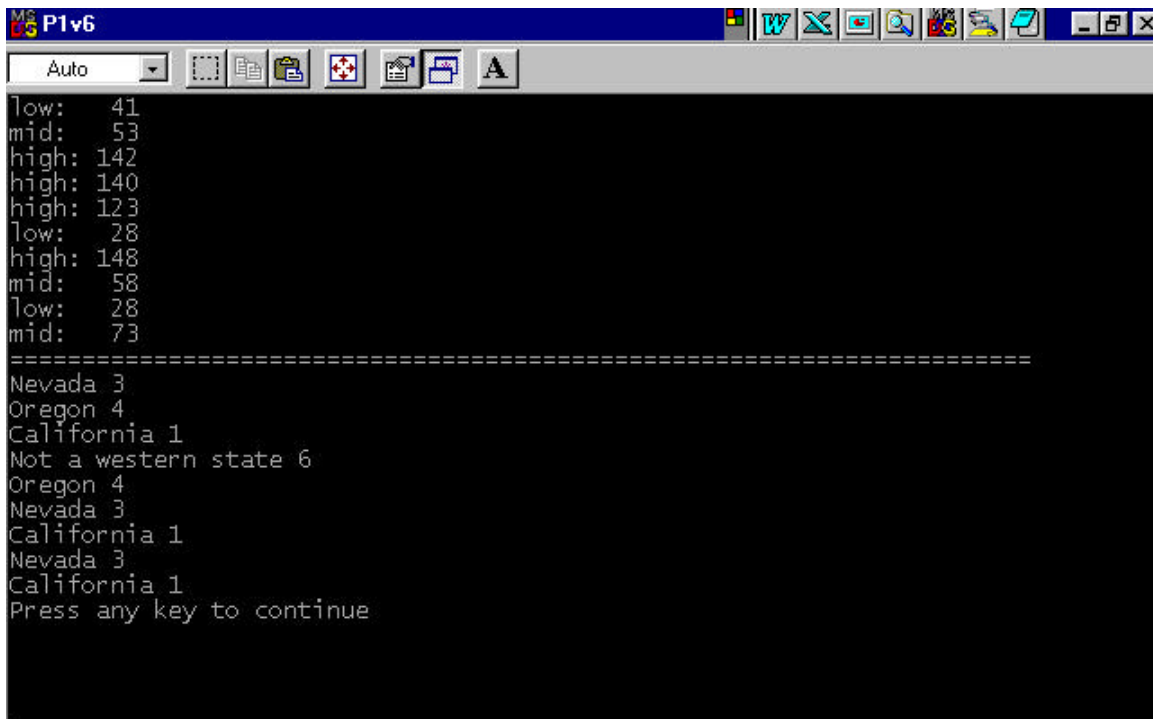
// Declaring variables
{
    int rand_num = 0;

    do
        rand_num = rand(); // Create random number
    while (rand_num > high_num || rand_num < 1);

    return rand_num;
}
```



Output



The screenshot shows a Windows command prompt window titled "MS-DOS P1v6". The window has a standard Windows XP-style title bar and a menu bar with "Auto" selected. The command prompt displays the following output:

```
low: 41
mid: 53
high: 142
high: 140
high: 123
low: 28
high: 148
mid: 58
low: 28
mid: 73
=====
Nevada 3
Oregon 4
California 1
Not a western state 6
Oregon 4
Nevada 3
California 1
Nevada 3
California 1
Press any key to continue
```