

PROBLEM STATEMENT:

Give a code that designs a single manipulator to provide the following output specification.

1. 10 columns width
2. Right justified
3. Two digits precision
4. Unused spaces filled with '*'
5. Trailing zeros shown

Also give the statement by which you invoke this manipulator

PROGRAM CODE:

```
#include<iostream>
#include<conio.h>
using namespace std;

ostream& usermanip(ostream& output)
{
    output.width(10);
    output.precision(2);
    output.fill('*');
    output.setf(ios::showpoint);           //Trailing zeros are shown
    output.setf(ios::right,ios::adjustfield); //Right-justification
    output.setf(ios::fixed,ios::floatfield); //Fixed representation
    return output;
}

int main()
{
    float num;
    z:
    cout<<"\nenter the floating point number: ";
    cin>>num;
    cout<<usermanip;
    cout<<num;
    goto z;
    getch();
    return 0;
}
```

OUTPUT:

```
enter the floating point number: 1.2234
*****1.22
enter the floating point number: 3.45
*****3.45
enter the floating point number: 2
*****2.00
enter the floating point number: -9.009
*****-9.01
enter the floating point number: -9.005
*****-9.01
enter the floating point number: -10.89
****-10.89
enter the floating point number: -15567.889
*-15567.89
enter the floating point number: +23232.00999
**23232.01
```

RESULT:

Hence a user-defined manipulator is created with the given specifications and used in the program to format the display of floating point numbers as required.