1)

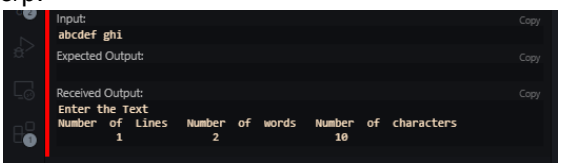
```
#include "iostream"
#include "iomanip"
#include "vector"
using namespace std;

void printArray(char a[], int size)
{
    char b[6];
    for (int i = 0; i < size; i++)
    {
        cout << a[i] << left;
    }
}

int main()
{

    char arr1[] = "object";

    for (int i = 0, w_string = 6, witdh = 1; i < 6;
i++, arr1[w_string] = '\0', w_string--, witdh =
witdh + 2)
    {
        int j = 0;
        for (j = 0; j < w_string; j++)
        {
            cout << arr1[j];
        }

        cout.width(witdh);
        cout << right;

        for (int k = j - 1; k >= 0; k--)
        {
            cout << arr1[k];
        }

        if (i == 4)
        {
            cout.fill('*');
        }
        if (i == 5)
        {
            cout.fill(' ');
        }
        cout << endl;
    }
    char arr[] = "object";
    for (int i = 0, width = 9; i < 5; i++, width =
width - 2)
    {
        int j = 0;
        for (j = 0; j <= i + 1; j++)
        {
            cout << arr[j];
        }
        cout.width(width);
        cout << right;
        for (int k = j - 1; k >= 0; k--)
        {
            cout << arr[k] << left;
        }
        cout << endl;
    }
}
```

O/P :

2)

```
#include <iostream>
#include <string.h>
using namespace std;
int main()
{
  char a[20];
  int b, c = 0;
  cout << "Enter the Text" << endl;
  cin.getline(a, 20);
  cout.setf(ios::left, ios::adjustfield);
  cout.width(20);
  cout << "Number  of  Lines";
  cout.width(20);
  cout << "Number  of  words";
  cout.width(25);
  cout << "Number  of  characters" << endl;
  cout.setf(ios::right, ios::adjustfield);
  cout.width(10);
  cout << "1";
  b = strlen(a);
  for (int i = 0; i < b; i++)
  {
    if (a[i] == ' ')
      c++;
  }
  cout.width(15);
  cout << c + 1;
  cout.width(20);
  cout << b;
}
```

o/p:



3)

```
#include <iostream>
#include <iomanip>
using namespace std;
int main()
{
    double sum = 0, term;
    cout.setf(ios::showpoint);
    cout << setw(5) << "n" << setw(15) <<
"Inverse of n" << setw(15) << "Sum of
terms\n\n";
    for (int i = 1; i <= 10; i++)
    {
        term = 1.0 / float(i);
        sum = sum + term;
        cout << setw(5) << i <<
setiosflags(ios::scientific) << setprecision(5)
<< setw(15) << term << setw(13) <<
resetiosflags(ios::scientific) << sum << endl;
    }
}
```

o/P :