

A1 : Program to compute average of N nos

```
#include <stdio.h>
```

```
int main()
```

```
{
```

```
    int n,number,sum=0;
```

```
    float avg;
```

```
    printf("Enter the number of integers : ");
```

```
    scanf("%d",&n);
```

```
    printf("Enter the integers : ");
```

```
    for(int i=0;i<n;++i)
```

```
    {
```

```
        scanf("%d",&number);
```

```
        sum+=number;
```

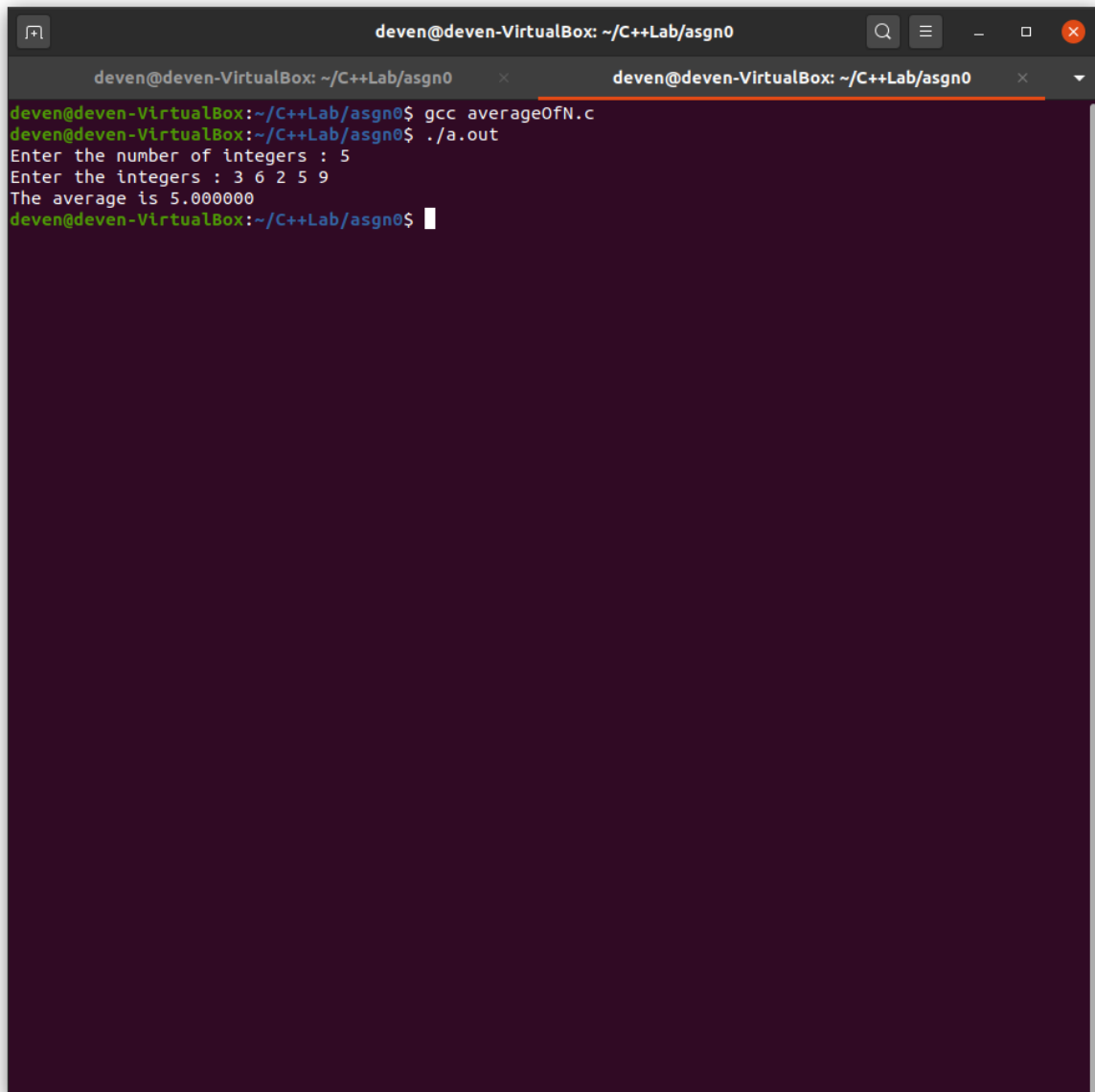
```
    }
```

```
    avg=(float)sum/n;
```

```
    printf("The average is %f\n",avg);
```

```
    return 0;
```

```
}
```



```
deven@deven-VirtualBox: ~/C++Lab/asn0
deven@deven-VirtualBox:~/C++Lab/asn0$ gcc averageOfN.c
deven@deven-VirtualBox:~/C++Lab/asn0$ ./a.out
Enter the number of integers : 5
Enter the integers : 3 6 2 5 9
The average is 5.000000
deven@deven-VirtualBox:~/C++Lab/asn0$
```

A2. program to add two matrices

```
#include <stdio.h>
```

```
void input_matrix(int m,int n,int matrix[][n])
```

```
{
```

```
    for(int i=0;i<m;++i)
```

```
        for(int j=0;j<n;++j)
```

```
            scanf("%d",&matrix[i][j]);
```

```
}
```

```
void print_matrix(int m,int n,int matrix[][n])
```

```
{
```

```
    for(int i=0;i<m;++i){
```

```
        for(int j=0;j<n;++j){
```

```
            printf("%d ",matrix[i][j]);
```

```
        }
```

```
        printf("\n");
```

```
    }
```

```
}
```

```
void add_matrices(int m,int n,int matrix1[][n],int matrix2[][n], int sum[][n])
```

```
{
```

```
    for(int i=0;i<m;++i)
```

```
        for(int j=0;j<n;++j)
```

```
            sum[i][j]=matrix1[i][j]+matrix2[i][j];
```

```
}
```

```
int main()
```

```
{
```

```
    int m,n;
```

```
    printf("Enter the m x n values:");
```

```
    scanf("%d%d",&m,&n);
```

```
    int matrix1[m][n],matrix2[m][n],sum[m][n];
```

```
    printf("Enter the values of the first matrix:\n");
```

```
    input_matrix(m,n,matrix1);
```

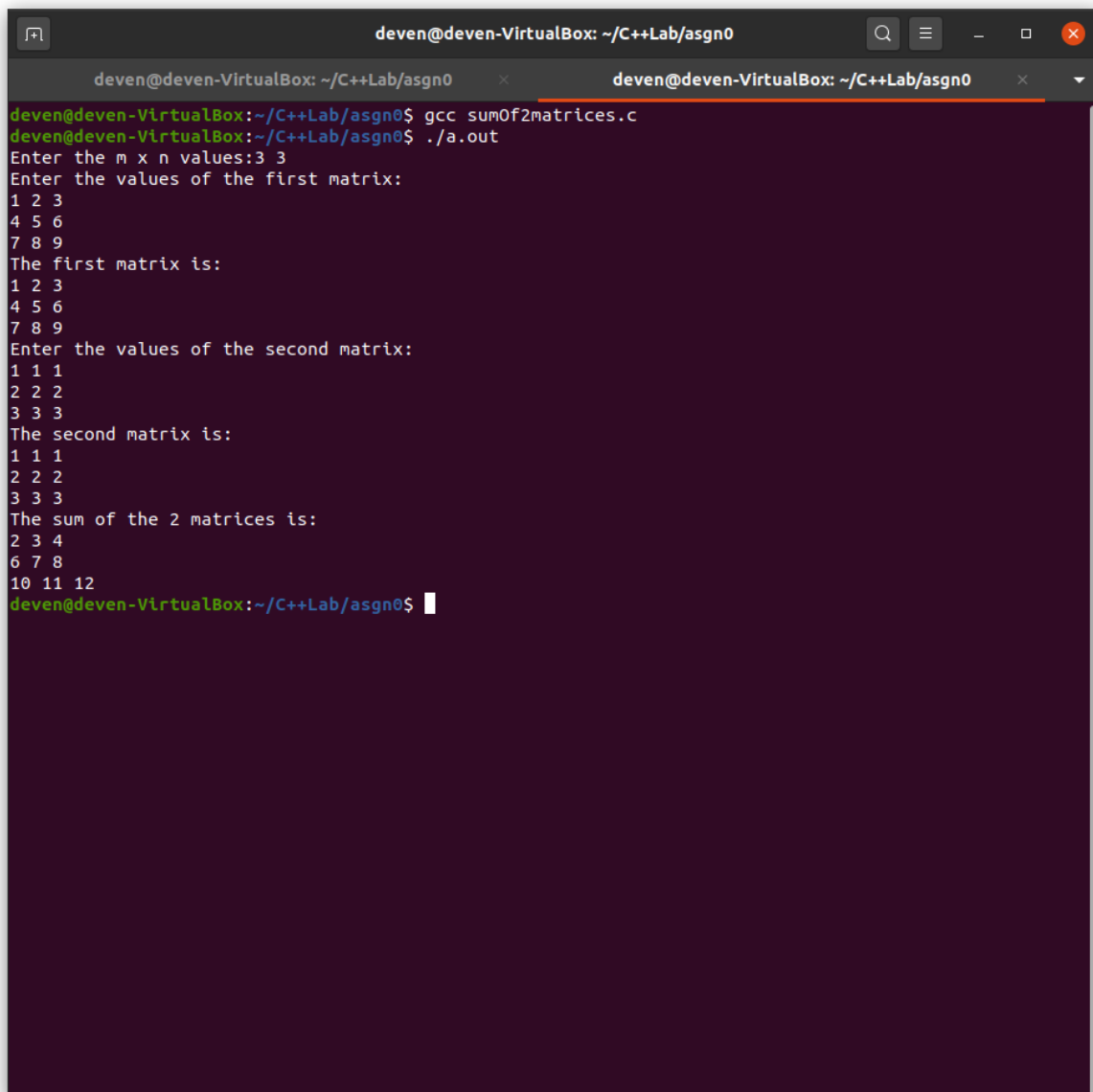
```
    printf("The first matrix is:\n");
```

```
    print_matrix(m,n,matrix1);
```

```
    printf("Enter the values of the second matrix:\n");
```

```
    input_matrix(m,n,matrix2);
```

```
printf("The second matrix is:\n");  
print_matrix(m,n,matrix2);  
add_matrices(m,n,matrix1,matrix2,sum);  
printf("The sum of the 2 matrices is:\n");  
print_matrix(m,n,sum);  
return 0;  
}
```



The screenshot shows a terminal window titled "deven@deven-VirtualBox: ~/C++Lab/asn0". The user has compiled a program named "sumOf2matrices.c" using "gcc" and executed it with "./a.out". The program prompts for the dimensions of the matrices (3x3) and then for the values of the first and second matrices. It then displays the first matrix, the second matrix, and the resulting sum matrix.

```
deven@deven-VirtualBox: ~/C++Lab/asn0$ gcc sumOf2matrices.c  
deven@deven-VirtualBox: ~/C++Lab/asn0$ ./a.out  
Enter the m x n values:3 3  
Enter the values of the first matrix:  
1 2 3  
4 5 6  
7 8 9  
The first matrix is:  
1 2 3  
4 5 6  
7 8 9  
Enter the values of the second matrix:  
1 1 1  
2 2 2  
3 3 3  
The second matrix is:  
1 1 1  
2 2 2  
3 3 3  
The sum of the 2 matrices is:  
2 3 4  
6 7 8  
10 11 12  
deven@deven-VirtualBox: ~/C++Lab/asn0$
```

A3 : Convert temperature in fahrenheit to Celsius

```
#include <stdio.h>
```

```
int main()
```

```
{
```

```
    float Tf,Tc;
```

```
    printf("Enter the Temperature in fahrenheit : ");
```

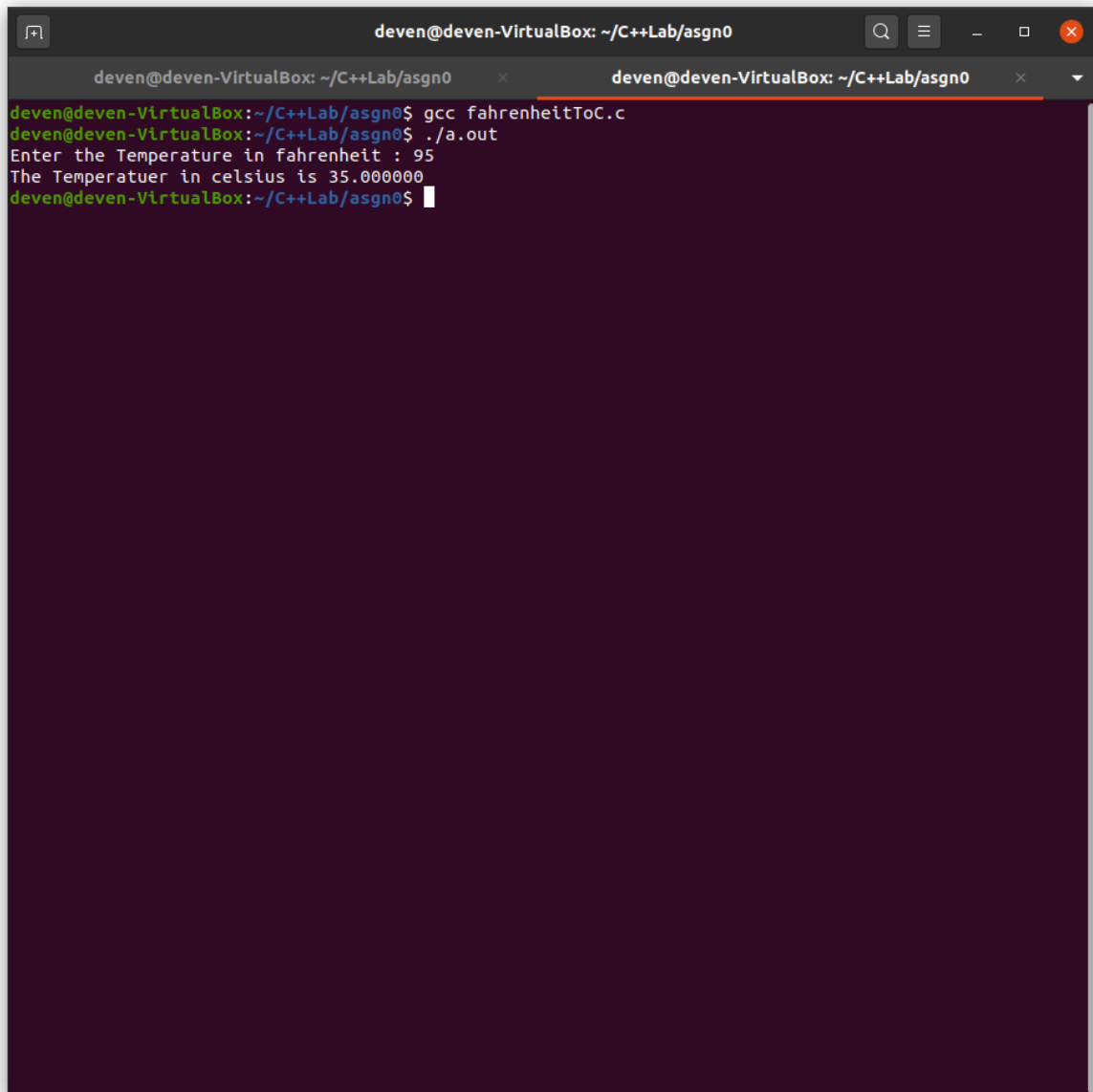
```
    scanf("%f",&Tf);
```

```
    Tc=(Tf-32)/1.8;
```

```
    printf("The Temperatuer in celsius is %f\n",Tc);
```

```
    return 0;
```

```
}
```



A terminal window titled "deven@deven-VirtualBox: ~/C++Lab/asgn0" with two tabs. The first tab shows the command `gcc fahrenheitToC.c` being executed. The second tab shows the command `./a.out` being executed, which prompts the user to "Enter the Temperature in fahrenheit : 95". The program then outputs "The Temperatuer in celsius is 35.000000".

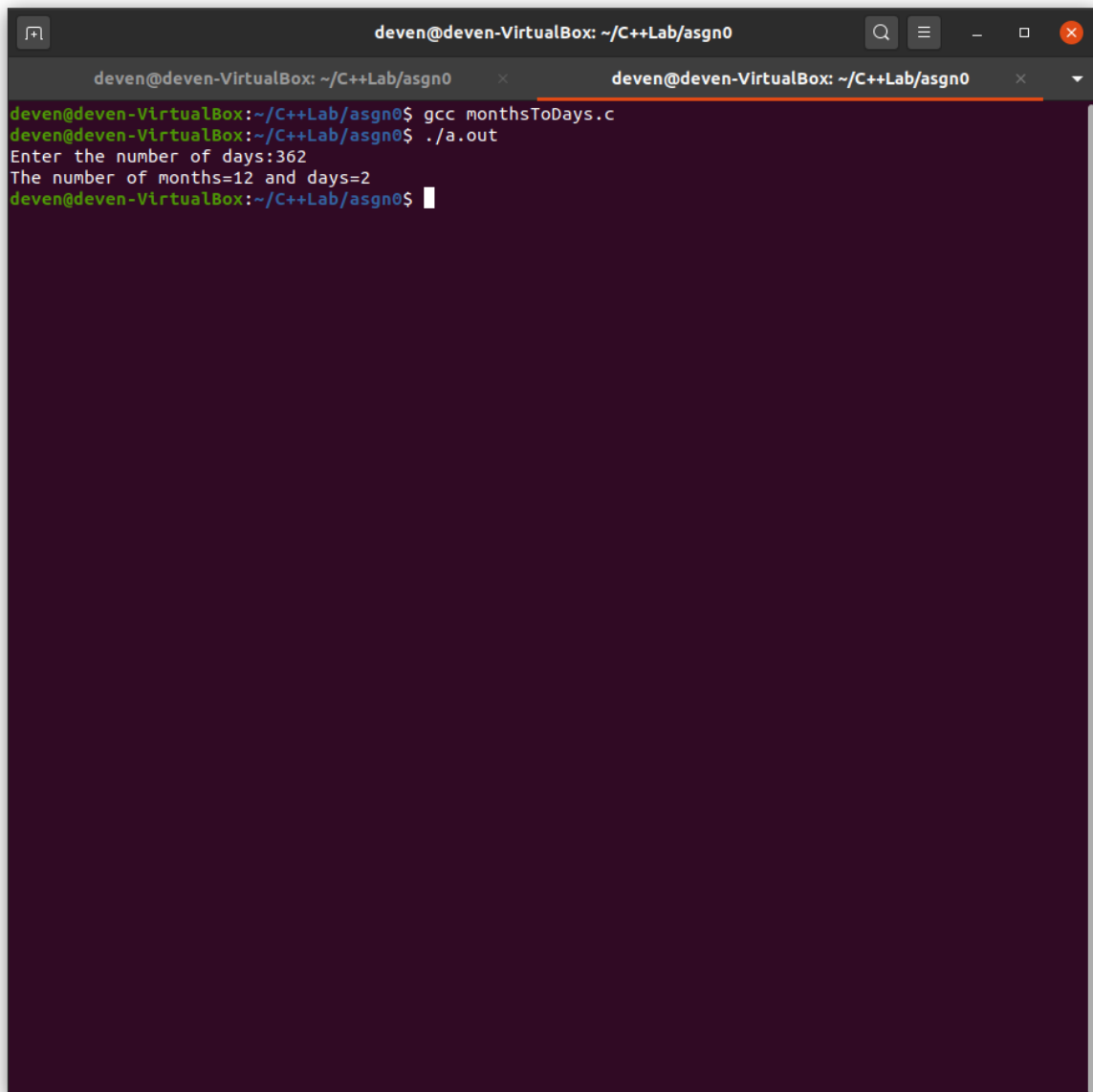
```
deven@deven-VirtualBox: ~/C++Lab/asgn0
deven@deven-VirtualBox: ~/C++Lab/asgn0$ gcc fahrenheitToC.c
deven@deven-VirtualBox: ~/C++Lab/asgn0$ ./a.out
Enter the Temperature in fahrenheit : 95
The Temperatuer in celsius is 35.000000
deven@deven-VirtualBox: ~/C++Lab/asgn0$
```

A4 : CONVERT DAYS TO MONTHS AND DAYS

```
#include <stdio.h>

int main()
{
    int ndays,m,d;
    printf("Enter the number of days:");
    scanf("%d",&ndays);
    m=(int)ndays/30;
```

```
d=(int)(ndays-m*30);  
printf("The number of months=%d and days=%d\n",m,d);  
return 0;  
}
```



The screenshot shows a terminal window titled "deven@deven-VirtualBox: ~/C++Lab/asn0". The terminal contains the following text:

```
deven@deven-VirtualBox: ~/C++Lab/asn0$ gcc monthsToDays.c  
deven@deven-VirtualBox: ~/C++Lab/asn0$ ./a.out  
Enter the number of days:362  
The number of months=12 and days=2  
deven@deven-VirtualBox: ~/C++Lab/asn0$
```

A5 : Inventory Report

```
#include <stdio.h>
```

```

struct product
{
    char code[5];
    int quantity;
    float rate;
    float value;
};

typedef struct product Product;

int main()
{
    Product p[4];
    float totvalue=0;
    for(int i=0;i<4;++i)
    {
        printf("Enter the product %d code, quantity and rate:",i+1);
        scanf("%s%d%f",p[i].code,&p[i].quantity,&p[i].rate);
        p[i].value=p[i].quantity*p[i].rate;
        totvalue+=p[i].value;
    }

    printf("Inventory report\n");
    printf("Code  Quantity Rate   Value\n");
    for(int i=0;i<4;++i)
        printf("%s %d   %.2f %.2f\n",p[i].code,p[i].quantity,p[i].rate,p[i].value);

    printf("The total value is %f\n",totvalue);
    return 0;
}

```



```
deven@deven-VirtualBox: ~/C++Lab/asn0
deven@deven-VirtualBox:~/C++Lab/asn0$ gcc productDetails.c
deven@deven-VirtualBox:~/C++Lab/asn0$ ./a.out
Enter the product 1 code, quantity and rate:F105 275 575
Enter the product 2 code, quantity and rate:H220 107 99.95
Enter the product 3 code, quantity and rate:I019 321 215.50
Enter the product 4 code, quantity and rate:M315 89 725
Inventory report
Code  Quantity  Rate    Value
F105  275       575.00 158125.00
H220  107       99.95  10694.65
I019  321      215.50 69175.50
M315   89      725.00 64525.00
The total value is 302520.156250
deven@deven-VirtualBox:~/C++Lab/asn0$
```

A6: Determine average cost and the range of values and range of a varying costs of computers (in hundreds)

```
#include <stdio.h>
```

```
int main()
```

```
{
```

```
    float cost[10],avgcost,sum=0,hcost=0,lcost=0,range;
```

```
    printf("Enter the different pc costs(In hundreds):");
```

```
    for(int i=0;i<10;++i)
```

```
{
    scanf("%f",&cost[i]);
    sum+=cost[i];
}
avgcost=sum/10;
hcost=lcost=cost[0];
for(int i=1;i<10;++i)
{
    if(cost[i]>hcost)
        hcost=cost[i];
    if(cost[i]<lcost)
        lcost=cost[i];
}
range=hcost-lcost;
printf("The average cost(In hundreds) is %f and range is(In hundreds) %f",avgcost,range);
return 0;
}
```

```
deven@deven-VirtualBox: ~/C++Lab/asgn0
deven@deven-VirtualBox: ~/C++Lab/asgn0$ gcc computers.c
deven@deven-VirtualBox: ~/C++Lab/asgn0$ ./a.out
Enter the different pc costs(In hundreds):35 40.50 25 31.25 68.15 47 26.65 29 53.45 62.50
The average cost(In hundreds) is 41.849998 and range is(In hundreds) 43.150002deven@deven-VirtualBox:
~/C++Lab/asgn0$
```