

C program for Simple Calculator

```
#include <stdio.h>

int main()
{
    float a,b,c,d,e,f;

    printf("Enter the values of a and b\n");

    scanf("%f %f",&a, &b);

    c=a+b;

    d=a-b;

    e=a*b;

    f=a/b;

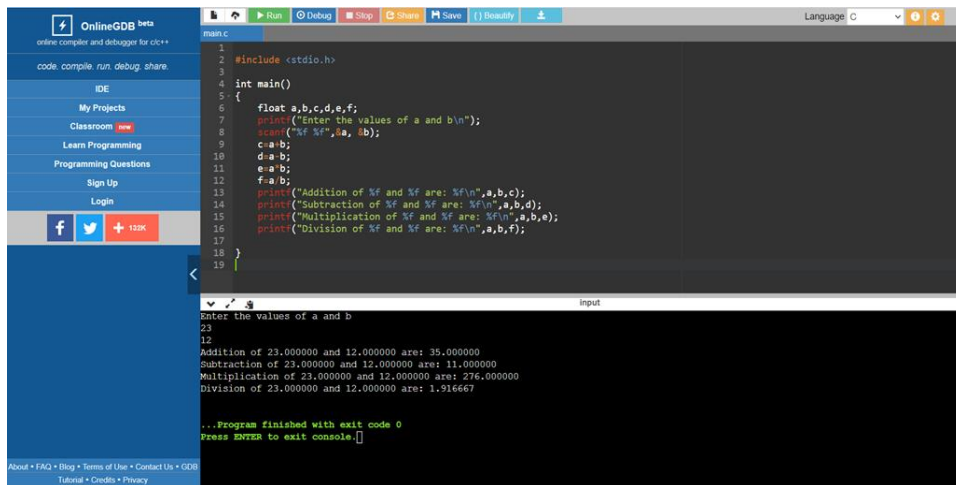
    printf("Addition of %f and %f are: %f\n",a,b,c);

    printf("Subtraction of %f and %f are: %f\n",a,b,d);

    printf("Multiplication of %f and %f are: %f\n",a,b,e);

    printf("Division of %f and %f are: %f\n",a,b,f);

}
```



The screenshot shows the OnlineGDB IDE interface. The code editor contains the C program for a simple calculator. The output window shows the results of the calculations for a=23 and b=12.

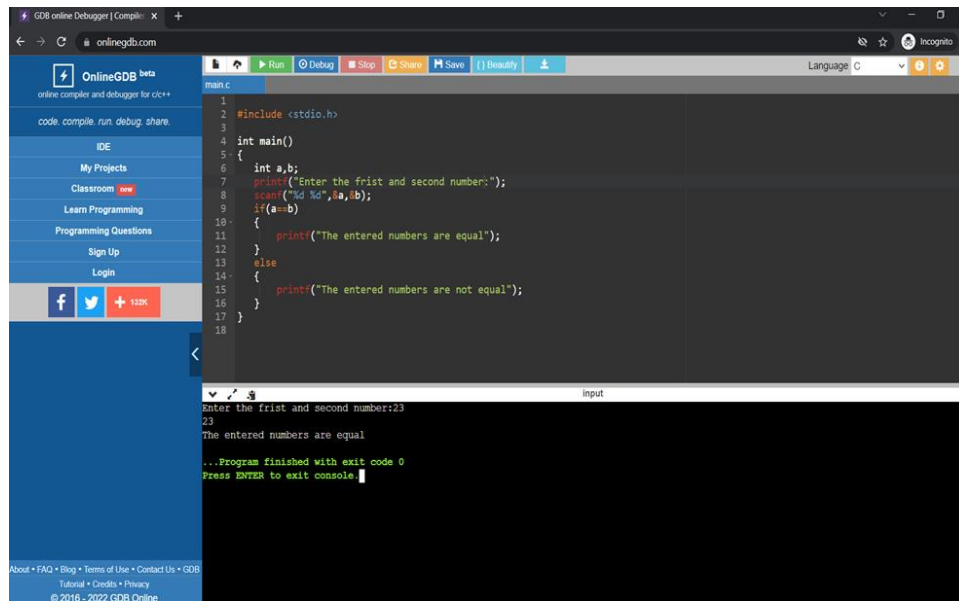
```
main.c
1 #include <stdio.h>
2
3
4 int main()
5 {
6     float a,b,c,d,e,f;
7     printf("Enter the values of a and b\n");
8     scanf("%f %f",&a, &b);
9     c=a+b;
10    d=a-b;
11    e=a*b;
12    f=a/b;
13    printf("Addition of %f and %f are: %f\n",a,b,c);
14    printf("Subtraction of %f and %f are: %f\n",a,b,d);
15    printf("Multiplication of %f and %f are: %f\n",a,b,e);
16    printf("Division of %f and %f are: %f\n",a,b,f);
17
18 }
19
```

input

```
Enter the values of a and b
23
12
Addition of 23.000000 and 12.000000 are: 35.000000
Subtraction of 23.000000 and 12.000000 are: 11.000000
Multiplication of 23.000000 and 12.000000 are: 276.000000
Division of 23.000000 and 12.000000 are: 1.916667

...Program finished with exit code 0
Press ENTER to exit console.
```

C program to check if two numbers are equal.



The screenshot shows the OnlineGDB web interface. On the left is a sidebar with navigation links: IDE, My Projects, Classroom (highlighted), Learn Programming, Programming Questions, Sign Up, and Login. Below these are social media icons for Facebook, Twitter, and a '+123K' button. The main area displays a C program in a dark-themed editor. The program includes `<stdio.h>` and defines `main()` where two integers `a` and `b` are declared. It prompts the user to enter two numbers, reads them with `scanf`, and uses an `if` statement to check if they are equal. If equal, it prints "The entered numbers are equal"; otherwise, it prints "The entered numbers are not equal". The program is run, and the console output shows the user entering '23' and '23', followed by the message "The entered numbers are equal". The console also shows "...Program finished with exit code 0" and "Press ENTER to exit console."

C program to check the discount of a person.

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

```
int main()
```

```
{
```

```
    int m,n,p,m1,n1,p1;
```

```
    int total;
```

```
    int dm1,dn1,dp1;
```

```
    int saved;
```

```
    printf("enter the bill amount for vegetable and fruits:");
```

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

```
    printf("enter the bill amount for groceries:");
```

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

```
    printf("enter the bill amount for medicien:");
```

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

```
    dm1=(m*10)/100;
```

```
    dn1=(12.5*n)/100;
```

```
    dp1=(18*p)/100;
```

```

m1=m-dm1;

n1=n-dn1;

p1=p-dp1;

printf("The amount paid in vegetable and fruits after discount: %d\n",m1);

printf("The amount paid in groceries shopping after discount: %d\n",n1);

printf("The amount paid in medical after discount: %d\n",p1);

total=m1+n1+p1;

printf("Total amount paid is %d\n",total);

saved=(m+n+p)-(m1+n1+p1);

printf("amount saved by punith after shopping is=%d",saved);

```

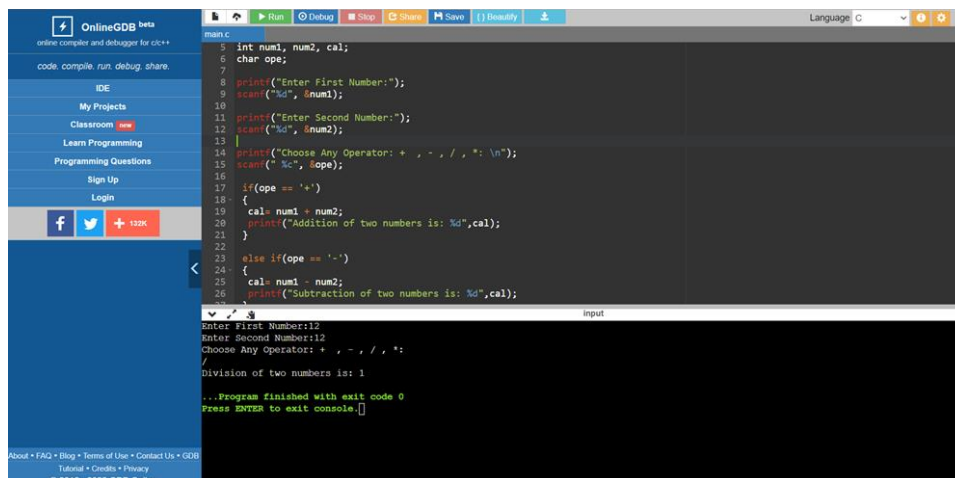
```

enter the bill amount for vegetable and fruits:3200
enter the bill amount for groceries:2300
enter the bill amount for medicien:2100
The amount paid in vegetable and fruits after discount: 2880
The amount paid in groceries shopping after discount: 2013
The amount paid in medical after discount: 1722
Total amount paid is 6615
amount saved by punith after shopping is=985

...Program finished with exit code 0
Press ENTER to exit console.

```

C program for a simple calculator using if else statements.

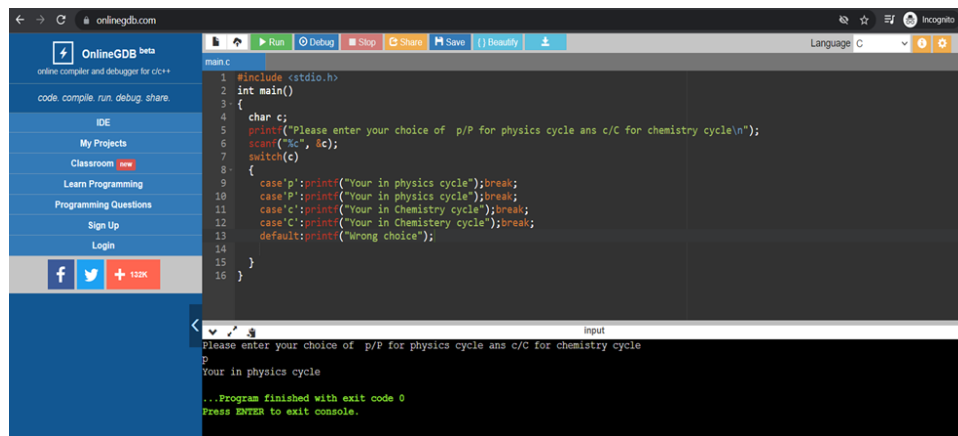


```

main.c
5 int num1, num2, cal;
6 char ope;
7
8 printf("Enter First Number:");
9 scanf("%d", &num1);
10
11 printf("Enter Second Number:");
12 scanf("%d", &num2);
13
14 printf("Choose Any Operator: + , - , / , * \n");
15 scanf("%c", &ope);
16
17 if(ope == '+')
18 {
19     cal= num1 + num2;
20     printf("Addition of two numbers is: %d",cal);
21 }
22
23 else if(ope == '-')
24 {
25     cal= num1 - num2;
26     printf("Subtraction of two numbers is: %d",cal);
27 }
28
29
Enter First Number:12
Enter Second Number:12
Choose Any Operator: + , - , / , * :
/
Division of two numbers is: 1
...Program finished with exit code 0
Press ENTER to exit console.

```

Write a c program for p-for physical cycle and c-for chemistry cycle using switch case.



```
1 #include <stdio.h>
2 int main()
3 {
4     char c;
5     printf("Please enter your choice of p/P for physics cycle ans c/C for chemistry cycle\n");
6     scanf("%c", &c);
7     switch(c)
8     {
9         case 'p': printf("Your in physics cycle"); break;
10        case 'P': printf("Your in physics cycle"); break;
11        case 'c': printf("Your in Chemistry cycle"); break;
12        case 'C': printf("Your in Chemistery cycle"); break;
13        default: printf("Wrong choice");
14    }
15 }
16
```

Input

Please enter your choice of p/P for physics cycle ans c/C for chemistry cycle

p

Your in physics cycle

...Program finished with exit code 0

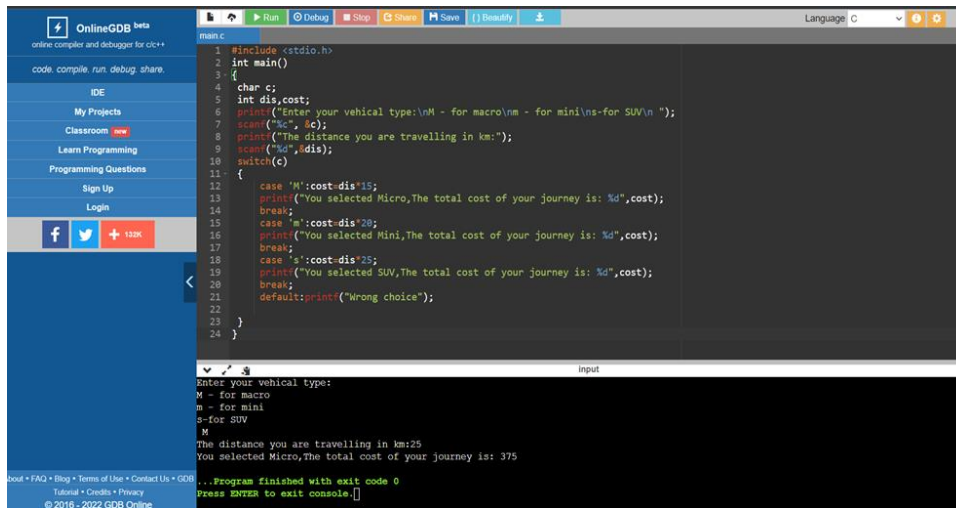
Press ENTER to exit console.

Write a c program for a student who has rank below 15000 and has a percentage higher than 75 using if else statements.

```
#include <stdio.h>

int main()
{
    int rank;
    float percentage;
    printf("Enter your persentage: ");
    scanf("%f",&percentage);
    printf("Enter your rank: ");
    scanf("%d",&rank);
    if(rank<15000 && percentage>75)
    {
        printf("Your are eligible");
    }
    else
    {
        printf("Your not eligible");
    }
}
```

Q8.) Write a c program for M-for macro, m-for mini, S-for suv and calculate the price for the distance travelled by respective vehical.



The screenshot shows the OnlineGDB IDE interface. The left sidebar contains navigation links like 'code, compile, run, debug, share', 'IDE', 'My Projects', 'Classroom', 'Learn Programming', 'Programming Questions', 'Sign Up', and 'Login'. The main editor area displays a C program that calculates the total cost of a journey based on vehicle type (M for macro, m for mini, S for SUV) and distance. The program uses a switch statement to handle different vehicle types and calculates the cost based on a fixed rate per km (15 for macro, 20 for mini, 25 for SUV). The output window shows the program's execution: it prompts for vehicle type, receives 'M', prompts for distance, receives '25', and outputs 'You selected Micro, The total cost of your journey is: 375'. The program finishes with exit code 0.

```
1 #include <stdio.h>
2 int main()
3 {
4     char c;
5     int dis, cost;
6     printf("Enter your vehical type:\nM - for macro\nm - for mini\ns-for SUV\n ");
7     scanf("%c", &c);
8     printf("The distance you are travelling in km:");
9     scanf("%d", &dis);
10    switch(c)
11    {
12        case 'M':cost=dis*15;
13        printf("You selected Micro,The total cost of your journey is: %d",cost);
14        break;
15        case 'm':cost=dis*20;
16        printf("You selected Mini,The total cost of your journey is: %d",cost);
17        break;
18        case 's':cost=dis*25;
19        printf("You selected SUV,The total cost of your journey is: %d",cost);
20        break;
21        default:printf("Wrong choice");
22    }
23 }
24 }
```

Enter your vehical type:
M - for macro
m - for mini
s-for SUV
M
The distance you are travelling in km:25
You selected Micro,The total cost of your journey is: 375
...Program finished with exit code 0
Press ENTER to exit console.

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

```
int main()
```

```
{
```

```
    char c;
```

```
    int dis, cost;
```

```
    printf("Enter your vehical type:\nM - for macro\nm - for mini\ns-for SUV\n ");
```

```
    scanf("%c", &c);
```

```
    printf("The distance you are travelling in km:");
```

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

```
    switch(c)
```

```
{
```

```
        case 'M':cost=dis*15;
```

```
        printf("You selected Micro,The total cost of your journey is: %d",cost);
```

```
        break;
```

```
        case 'm':cost=dis*20;
```

```
        printf("You selected Mini,The total cost of your journey is: %d",cost);
```

```
        break;
```

```
        case 's':cost=dis*25;
```

```
printf("You selected SUV,The total cost of your journey is: %d",cost);
```

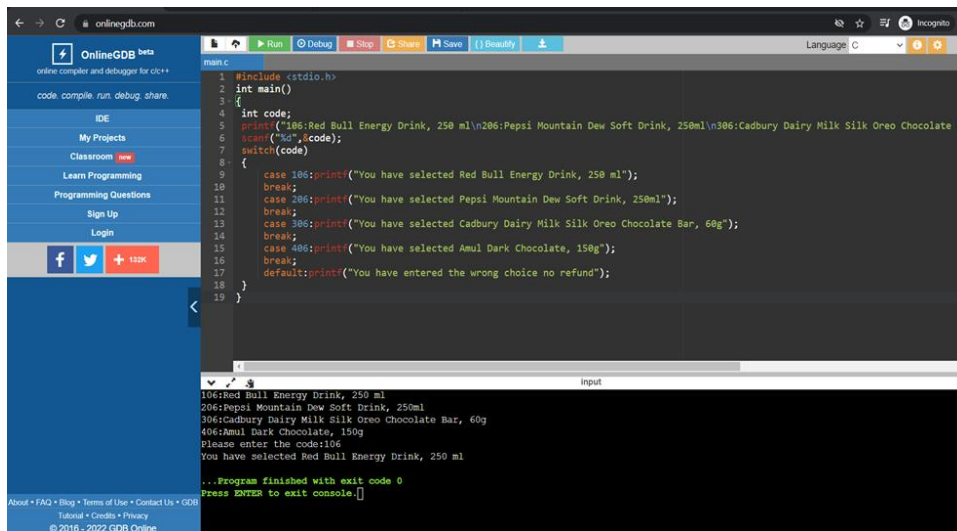
```
break;
```

```
default:printf("Wrong choice");
```

```
}
```

```
}
```

Write a c program for a simple vending machine Using swich case. #include <stdio.h>

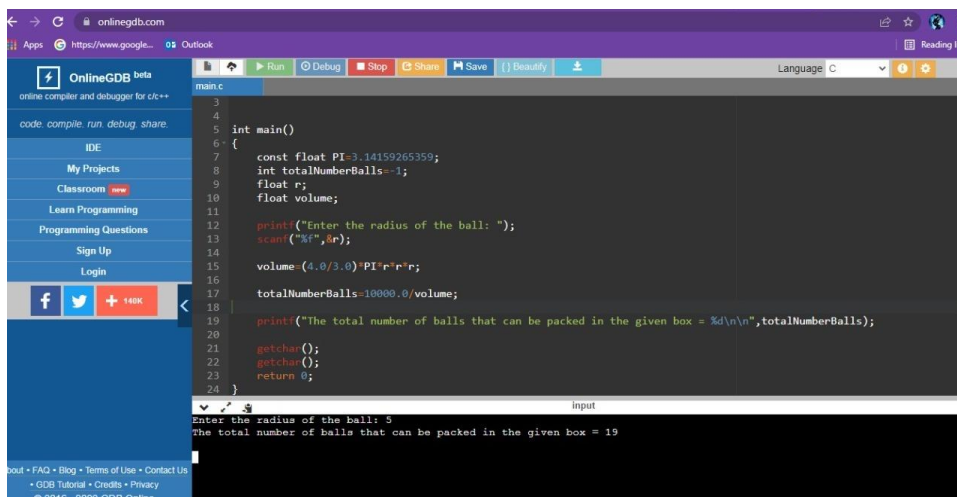


The screenshot shows the OnlineGDB interface with a C program for a vending machine. The code uses a switch statement to handle different product selections. The output shows the program running successfully with the correct output for the selected product.

```
1 #include <stdio.h>
2 int main()
3 {
4     int code;
5     printf("106:Red Bull Energy Drink, 250 ml\n206:Pepsi Mountain Dew Soft Drink, 250ml\n306:Cadbury Dairy Milk Silk Oreo Chocolate Bar, 60g\n406:Amul Dark Chocolate, 150g\n");
6     scanf("%d",&code);
7     switch(code)
8     {
9         case 106:printf("You have selected Red Bull Energy Drink, 250 ml");
10        break;
11        case 206:printf("You have selected Pepsi Mountain Dew Soft Drink, 250ml");
12        break;
13        case 306:printf("You have selected Cadbury Dairy Milk Silk Oreo Chocolate Bar, 60g");
14        break;
15        case 406:printf("You have selected Amul Dark Chocolate, 150g");
16        break;
17        default:printf("You have entered the wrong choice no refund");
18    }
19 }
```

Input: 106:Red Bull Energy Drink, 250 ml
206:Pepsi Mountain Dew Soft Drink, 250ml
306:Cadbury Dairy Milk Silk Oreo Chocolate Bar, 60g
406:Amul Dark Chocolate, 150g
Please enter the code:106
You have selected Red Bull Energy Drink, 250 ml
...Program finished with exit code 0
Press ENTER to exit console.

C program to find no. of balls

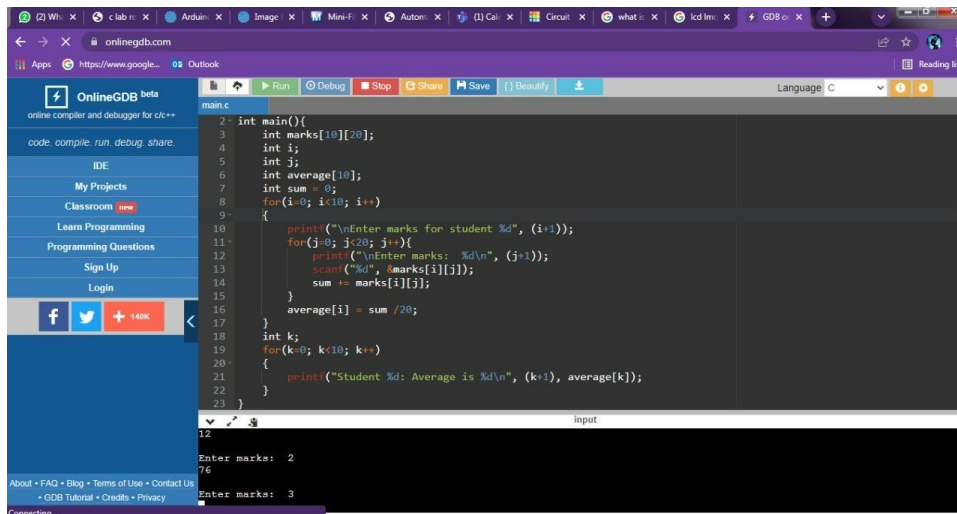


The screenshot shows the OnlineGDB interface with a C program to find the number of balls. The code calculates the volume of a ball and then divides the total number of balls by the volume to find the number of balls that can be packed in a given box. The output shows the program running successfully with the correct output for the given input.

```
3
4
5 int main()
6 {
7     const float PI=3.14159265359;
8     int totalNumberBalls=1;
9     float r;
10    float volume;
11
12    printf("Enter the radius of the ball: ");
13    scanf("%f",&r);
14
15    volume=(4.0/3.0)*PI*r*r*r;
16
17    totalNumberBalls=10000.0/volume;
18
19    printf("The total number of balls that can be packed in the given box = %d\n",totalNumberBalls);
20
21    getchar();
22    getchar();
23    return 0;
24 }
```

Input: Enter the radius of the ball: 5
The total number of balls that can be packed in the given box = 19

Addition of Matrices



```
#include <stdio.h>
int main()
{
    int r, c, a[100][100], b[100][100], sum[100][100], i, j;
    printf("Enter the number of rows (between 1 and 100): ");
    scanf("%d", &r);
    printf("Enter the number of columns (between 1 and 100): ");
    scanf("%d", &c);

    printf("\nEnter elements of 1st matrix:\n");
    for (i = 0; i < r; ++i)
        for (j = 0; j < c; ++j)
        {
            printf("Enter element a%d%d: ", i + 1, j + 1);
            scanf("%d", &a[i][j]);
        }

    printf("Enter elements of 2nd matrix:\n");
    for (i = 0; i < r; ++i)
        for (j = 0; j < c; ++j) {
            printf("Enter element b%d%d: ", i + 1, j + 1);
            scanf("%d", &b[i][j]);
        }

    // adding two matrices
    for (i = 0; i < r; ++i)
        for (j = 0; j < c; ++j) {
            sum[i][j] = a[i][j] + b[i][j];
        }
}
```

```

    }

// printing the result
printf("\nSum of two matrices: \n");
for (i = 0; i < r; ++i)
    for (j = 0; j < c; ++j) {
        printf("%d ", sum[i][j]);
        if (j == c - 1) {
            printf("\n\n");
        }
    }

return 0;
}

```

```

#include<stdio.h>

int main()
{
    int arr[10], size, i, sum = 0;
    printf("Enter array size\n");
    scanf("%d",&size);

    printf("Enter array elements\n");
    for(i = 0; i < size; i++)
        scanf("%d",&arr[i]);

    for(i = 0; i < size; i++)
        sum = sum + arr[i];

    for (int i = 1; i < size; ++i)
    {
        if (arr[0] < arr[i])
        {
            arr[0] = arr[i];
        }
    }

    printf("Largest element = %d\n", arr[0]);
    for (int i = 1; i < size; ++i)
    {
        if (arr[0] > arr[i])
        {
            arr[0] = arr[i];
        }
    }

    printf("smallest element = %d\n", arr[0]);
    float avg=sum/size;
    printf("Sum of the array = %d\n",sum);
    printf("Avg of the array = %f\n",avg);

    return 0;
}

```

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

```
int main()
```



```
{

int arr[10], size, i, sum = 0;
printf("Enter array size\n");
scanf("%d",&size);
printf("Enter array elements\n");
for(i = 0; i < size; i++)
scanf("%d",&arr[i]);
for(i = 0; i < size; i++)
sum = sum + arr[i];
for (int i = 1; i < size; ++i)
{
    if (arr[0] < arr[i])
    {
        arr[0] = arr[i];
    }
}
printf("Largest element = %d\n", arr[0]);
for (int i = 1; i < size; ++i)
{
    if (arr[0] > arr[i])
    {
        arr[0] = arr[i];
    }
}
printf("smallest element = %d\n", arr[0]);
float avg=sum/size;
printf("Sum of the array = %d\n",sum);
printf("Avg of the array = %f\n",avg);
```

```
return 0;
```

```
}
```