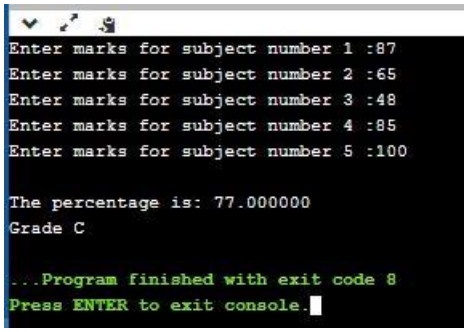
1. **Write a C program to read 5 subjects marks of a student and calculate his/her Total and Percentage using arrays. And print the result as following criteria Calculate percentage and grade according to following:**

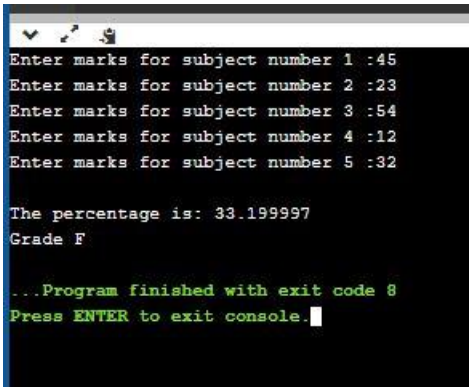
Percentage >= 90% : Grade A
Percentage >= 80% : Grade B
Percentage >= 70% : Grade C
Percentage >= 60% : Grade D
Percentage >= 40% : Grade E
Percentage < 40% : Grade F

Program:-

```
#include <stdio.h>
void main()
{
   int arr[5],i;
   float sum=0,per;
   for(i=0;i<5;i++)
   {
      printf("Enter marks for subject number %d :",i+1);
      scanf("%d",&arr[i]);
      sum+=arr[i];
   }
   per=(sum/500)*100;
   printf("\nThe percentage is: %f",per);
   if(per>=90)
      printf("\nGrade A");
   else if(per>=80)
      printf("\nGrade B");
   else if(per>=70)
      printf("\nGrade C");
   else if(per>=60)
      printf("\nGrade D");
   else if(per>=40)
      printf("\nGrade E");
   else
      printf("\nGrade F");
}
```

OUTPUT:





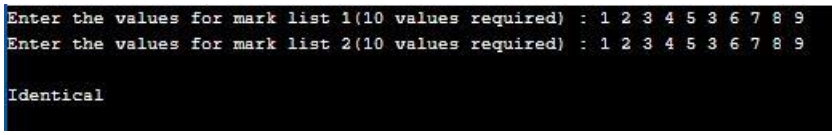
2. Write a C program to read two mark lists of equal size (10 size) and check whether they are identical or not.
E.g.
mark list 1 : 22 33 44 55 66
mark list 2 : 22 33 44 55 66
Output : Identical

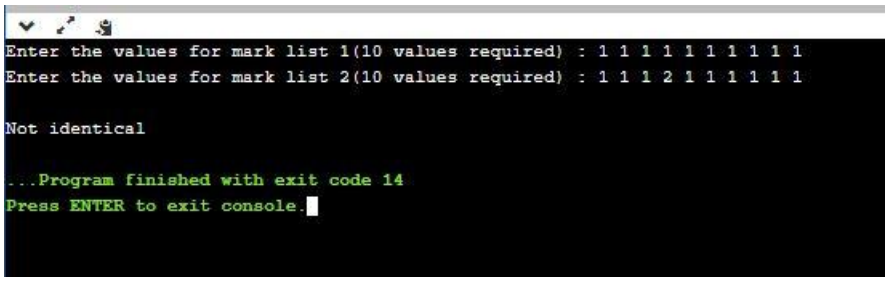
Program:-

```
#include <stdio.h>
void main()
{
   int arr1[10],arr2[10],i,t=0;
   printf("Enter the values for mark list 1(10 values required) : ");
   for(i=0;i<10;i++)
      scanf("%d",&arr1[i]);
    printf("Enter the values for mark list 2(10 values required) : ");
   for(i=0;i<10;i++)
   {
      scanf("%d",&arr2[i]);
      if(arr1[i]!=arr2[i])
      {
         t=1;
         break;
      }
   }
   if(t==0)
      printf("\nIdentical");
   else
```

```
    printf("\nNot identical");
}
```

OUTPUT:





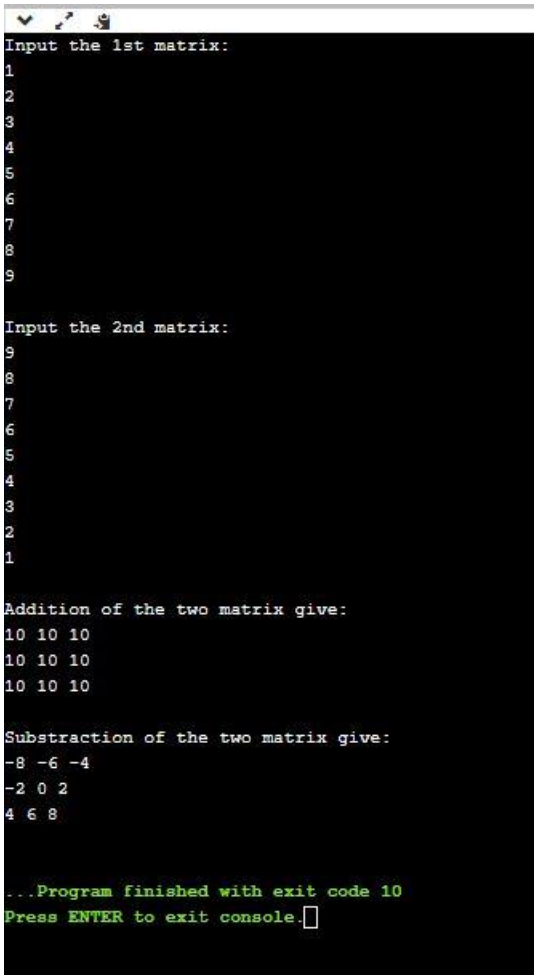
3.Write a C program to read two 3x 3 matrix from user and perform addition and subtraction of Matrices.

Program:-

```
#include <stdio.h>
void main()
{
   int matrix1[3][3],matrix2[3][3],add[3][3],sub[3][3],i,j;
   printf("Input the 1st matrix: \n");
   for(i=0;i<3;i++)
   {
      for(j=0;j<3;j++)
         scanf("%d",&matrix1[i][j]);
   }
   printf("\nInput the 2nd matrix: \n");
   for(i=0;i<3;i++)
   {
      for(j=0;j<3;j++)
      {
         scanf("%d",&matrix2[i][j]);
         add[i][j]=matrix1[i][j]+matrix2[i][j];
         sub[i][j]=matrix1[i][j]-matrix2[i][j];
      }
   }
   printf("\nAddition of the two matrix give: /n");
```

```
    for(i=0;i<3;i++)
    {
        for(j=0;j<3;j++)
            printf("%d ",add[i][j]);
        printf("\n");
    }
    printf("\nSubstraction of the two matrix give: /n");
    for(i=0;i<3;i++)
    {
        for(j=0;j<3;j++)
            printf("%d ",sub[i][j]);
        printf("\n");
    }
}
```

OUTPUT:



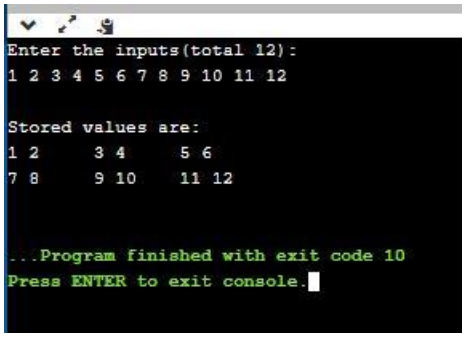
4. Write C Program to store and print 12 values entered by the user by using [2][3][2] array.

Program:-

```
#include <stdio.h>
void main()
{
   int arr[2][3][2],i,j,k;
   printf("Enter the inputs(total 12): \n");
   for(i=0;i<2;i++)
   {
      for(j=0;j<3;j++)
      {
         for(k=0;k<2;k++)
            scanf("%d",&arr[i][j][k]);
      }
   }
   printf("\nStored values are: \n");
   for(i=0;i<2;i++)
   {
      for(j=0;j<3;j++)
      {
         for(k=0;k<2;k++)
            printf("%d ",arr[i][j][k]);
         printf("\t");
      }
      printf("\n");
```

```
    }
}
```

OUTPUT:



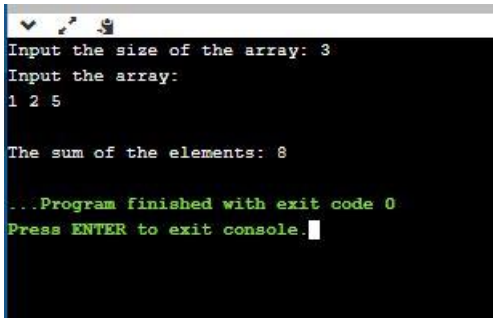
5. WAP to find the sum of all elements in an integer array using function.

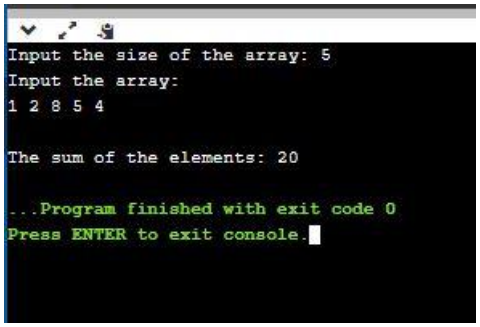
Programs:-

```
#include <stdio.h>
int sum(int arr[],int num)
{
    int temp=0,i;
    for(i=0;i<num;i++)
        temp+=arr[i];
    return temp;
}
void main()
{
    int num;
    printf("Input the size of the array: ");
    scanf("%d",&num);
```

```
    int arr[num],i;
    printf("Input the array: \n");
    for(i=0;i<num;i++)
        scanf("%d",&arr[i]);
    printf("\nThe sum of the elements: %d",sum(arr,num));
}
```

OUTPUT:





6. WAP to find the smallest and largest element in an array using function.

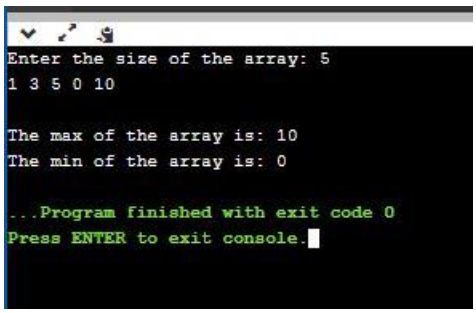
Program:-

```
int max(int arr[],int num)
{
    int max=arr[0],i;
```

```
    for(i=1;i<num;i++)
    {
        if(max<arr[i])
            max=arr[i];
    }
    return max;
}
int min(int arr[],int num)
{
    int min=arr[0],i;
    for(i=1;i<num;i++)
    {
        if(min>arr[i])
            min=arr[i];
    }
```

```
    return min;

}

void main()

{

    printf("Enter the size of the array: ");

    int num;

    scanf("%d",&num);

    int i;

    int arr[num];

    for(i=0;i<num;i++)

        scanf("%d",&arr[i]);

    printf("\nThe max of the array is: %d",max(arr,num));

    printf("\nThe min of the array is: %d",min(arr,num));

}
```

OUTPUT:


Enter the size of the array: 5
1 3 5 0 10
The max of the array is: 10
The min of the array is: 0
...Program finished with exit code 0
Press ENTER to exit console.