```c
/*
Q 1. Write a C program to find the sum of all the elements of an array.
*/
#include<stdio.h>
void main()
{
    int i,sum,arr[10];
    for(i=0;i<10;i++)
    {
        printf("Enter element at index %d : ",i);
        scanf("%d",&arr[i]);
    }
    printf("Array =");
    for(i=0;i<10;i++)
    {
        printf("\t%d",arr[i]);
    }
    sum=0;
    for(i=0;i<10;i++)
    {
        sum=sum+arr[i];
    }
    printf("\nSum = %d",sum);
}
```

```c
/*

Q 2. An array consist of Integers. Write a C program to count the number of
elements less than, greater than and equal to zero.

*/

#include<stdio.h>

void main()

{

	int i,less,great,zero,arr[10];

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

	{

		printf("Enter element at index %d : ",i);

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

	}

	printf("Array =");

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

	{

		printf("\t%d",arr[i]);

	}

	less=0;

	great=0;

	zero=0;

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

	{

		if(arr[i]==0)

			zero++;

		if(arr[i]<0)

			less++;
```

```
        if(arr[i]>0)
                great++;
    }
    printf("\nNumbers Less than 0 = %d\nNumbers equal to 0 = %d\nNumbers
Greater than 0 = %d",less,zero,great);
}
```

```c
/*
Q 3. Write a C program that return the positions of the pallindrome element in
array.
*/
#include<stdio.h>
void main()
{
    int i,rem,pall,temp,arr[10];
    for(i=0;i<10;i++)
    {
        printf("Enter element at index %d : ",i);
        scanf("%d",&arr[i]);
    }
    printf("Array =");
    for(i=0;i<10;i++)
    {
        printf("\t%d",arr[i]);
    }
    printf("\nPallindrome element is present at index :");
    for(i=0;i<10;i++)
    {
        temp=arr[i];
        pall=0;
        while(temp > 0)
        {
            rem=temp%10;
            temp=temp/10;
```

```
                    pall=pall*10 + rem;
          }
          if(arr[i] == pall)
                    printf("\t%d",i);
     }
}
```

```c
/*

Q 4. Write a C program to sort first half of array in ascending order and second
half of array in descending order.

*/

#include<stdio.h>

void main()

{

    int i,j,temp,arr[10];

    int z;

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

    {

        printf("Enter element at index %d : ",i);

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

    }

    printf("Array =\t");

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

    {

        printf("\t%d",arr[i]);

    }


    // Ascending Order by Shifting Method

    for(i=0;i<5;i++)

    {

        for(j=i+1;j<5;j++)

        {

            if(arr[i] > arr[j])                 // Selection Sort

            {
```

```c
                temp=arr[j];                    // Shifting
                arr[j]=arr[i];
                arr[i]=temp;
            }
        }
    }


    // Descending Order by Shifting Method
    for(i=5;i<10;i++)
    {
        for(j=i+1;j<10;j++)
        {
            if(arr[i] < arr[j])                 // Selection Sort
            {
                temp=arr[j];                    // Shifting
                arr[j]=arr[i];
                arr[i]=temp;
            }
        }
    }


    printf("\nSorted Array =");
    for(i=0;i<10;i++)
        printf("\t%d",arr[i]);
}
```

```c
/*
Q 5. Write a C program to copy the elements of one array into another array.
*/
#include<stdio.h>
void main()
{
      int i,sum,arr[10],copy[10];
      for(i=0;i<10;i++)
      {
            printf("Enter element at index %d : ",i);
            scanf("%d",&arr[i]);
      }
      printf("Array =\t");
      for(i=0;i<10;i++)
      {
            printf("\t%d",arr[i]);
      }
      for(i=0;i<10;i++)
      {
            copy[i]=arr[i];
      }
      printf("\nCopied Array =");
      for(i=0;i<10;i++)
      {
            printf("\t%d",copy[i]);
      }
}
```

```c
/*
Q6. Write a C program to sort only even numbers in given array.
     Eg.
            Input: 45 8 75 29 5 49 56 22 14 497 288 18 2
            Output: 45 2 75 29 5 49 8 14 18 497 22 56 288
*/
#include<stdio.h>
void main()
{
     int i,j,k,l,temp,min,arr[13];
     for(i=0;i<13;i++)
     {
          printf("Enter element at index %d : ",i);
          scanf("%d",&arr[i]);
     }
     printf("Array =\t");
     for(i=0;i<13;i++)
     {
          printf("\t%d",arr[i]);
     }
     for(i=0;i<12;i++)
     {
          if(arr[i]%2 == 0)
          {
               for(j=i+1;j<13;j++)
               {
                    if(arr[j]%2==0 && arr[i] > arr[j])
```

```
                {
                        temp=arr[j];

                        arr[j]=arr[i];

                        arr[i]=temp;

                }

        }

    }

}

/*

l=0;

while(l<12)

{

        for(l=l;l<13;l++)

        {

                if(arr[l]%2==0)

                {

                        min=arr[l];

                        k=l;

                        break;

                }

        }

        for(j=l+1;j<13;j++)

        {

                if(arr[j]%2==0 && min>arr[j])

                {

                        min=arr[j];

                        k=j;
```

```
                    }
                }
            temp=arr[k];
            arr[k]=arr[l];
            arr[l]=temp;
            l++;
        }*/
        printf("\nSorted Array =");
        for(i=0;i<13;i++)
        {
            printf("\t%d",arr[i]);
        }
}
```

```c
/*
Q 7. Write a program in C to separate odd and even integers in same array.
*/
#include<stdio.h>
void main()
{
    int i,j,temp,arr[10];
    for(i=0;i<10;i++)
    {
        printf("Enter element at index %d : ",i);
        scanf("%d",&arr[i]);
    }
    printf("Array =\t");
    for(i=0;i<10;i++)
    {
        printf("\t%d",arr[i]);
    }

    // Sorting by Shifting Method
    j=9;
    for(i=0; i<=j ;i++)
    {
        if(arr[i]%2 != 0)
        {
            for(j=j;j>i;j--)
            {
                if(arr[j]%2 == 0)
```

```
                    {
                            temp=arr[j];
                            arr[j]=arr[i];
                            arr[i]=temp;
                            break;
                    }
                }
            }
    }
    printf("\nSorted Array =");
    for(i=0;i<10;i++)
    {
        printf("\t%d",arr[i]);
    }
}
```

```c
/*
Q 8. Write a program in C to count the frequency of each element of an array.
*/
#include<stdio.h>
void main()
{
    int i,j,k,count,flag,arr[10];
    for(i=0;i<10;i++)
    {
        printf("Enter element at index %d : ",i);
        scanf("%d",&arr[i]);
    }
    printf("Array =");
    for(i=0;i<10;i++)
    {
        printf("\t%d",arr[i]);
    }
    for(i=0;i<10;i++)
    {
        flag=0;
        count=1;
        for(k=i-1;k>=0;k--)
        {
            if(arr[i]==arr[k])
            {
                flag=1;
                break;
```

```c
                }
            }
            if(flag==0)
            {
                for(j=i+1;j<10;j++)
                {
                    if(arr[i]==arr[j])
                    {
                        count++;
                    }
                }
                printf("\n%d -> %d",arr[i],count);
            }
        }
    }
```

```c
/*
Q 9. Write a program in C to print all unique elements in an array.
*/
#include<stdio.h>
void main()
{
      int i,j,count,arr[10];
      for(i=0;i<10;i++)
      {
            printf("Enter element at index %d : ",i);
            scanf("%d",&arr[i]);
      }
      printf("Array =\t");
      for(i=0;i<10;i++)
      {
            printf("\t%d",arr[i]);
      }
      printf("\nUnique Elements : ");
      for(i=0;i<10;i++)
      {
            count=0;
            for(j=0;j<10 && count<=1;j++)
            {
                  if(arr[i] == arr[j])
                        count++;
            }
            if(count == 1)
```

```
            printf("%d\t",arr[i]);
      }
}
```

```c
/*
Q 10. Write a program in C to insert New value in the array (sorted list ).
*/
#include<stdio.h>
void main()
{
        int i,j,n,temp,arr[11];
        for(i=0;i<10;i++)
        {
                printf("Enter element at index %d : ",i);
                scanf("%d",&arr[i]);
        }
        printf("Array =\t");
        for(i=0;i<10;i++)
        {
                printf("\t%d",arr[i]);
        }
        for(i=0;i<9;i++)
        {
                for(j=i+1;j<10;j++)
                {
                        if(arr[i] > arr[j])                     // Selection Sort
                        {
                                temp=arr[j];            // Shifting
                                arr[j]=arr[i];
                                arr[i]=temp;
                        }
```

```
                }
        }
        printf("\nSorted Array =");
        for(i=0;i<10;i++)
        {
                printf("\t%d",arr[i]);
        }
        printf("\nEnter number to insert in array : ");
        scanf("%d",&n);
        for(i=0;i<11;i++)
        {
                if(arr[i] > n)
                {
                        for(j=10; j > i ;j--)
                        {
                                arr[j]=arr[j-1];
                        }
                        arr[i]=n;
                        break;
                }
        }
        printf("\nNew Sorted Array =");
        for(i=0;i<11;i++)
        {
                printf("\t%d",arr[i]);
        }
}
```