Abhishek Singh Bhadoriya

Submit – Sandeep Sappal Sir

Asssignment – Arrays

1. **Write a C program to read and print elements of array.**

```
#include<stdio.h>
void main()
{
        int x[5],i;
        for(i=0;i<=4;i++)
        {
                printf("Enter the value of index:x[%d] : ",i);
                scanf("%d",&x[i]);
        }
        for(i=0;i<=4;i++)
        {
                printf("%d   ",x[i]);

        }

}
```

2. **Write a C program to find sum of all array elements.**

```
#include<stdio.h>
void main()
{
        int x[5],i,s=0;
        for(i=0;i<=4;i++)
        {
                printf("Enter the value of index:x[%d] : ",i);
                scanf("%d",&x[i]);
        }
        for(i=0;i<=4;i++)
        {
         s=s+i;

        }
        printf(" Sum of Array is:%d",s);

}
```

3. Write a C program to find maximum and minimum element in an array. - using recursion.

```
#include<stdio.h>
void main()
{
	int x[5],i,max,min;
	for(i=0;i<=4;i++)
	{
		printf("Enter the value of index:x[%d] : ",i);
		scanf("%d",&x[i]);
	}
	max=x[0];
	min=x[0];
	for(i=0;i<=4;i++)
	{
	 if(x[i]>max)
	 {
		max=x[i];
	 }
	 else if(x[i]<min)
	 {
		min=x[i];
	 }

	}
	printf("Maximum number of array %d\n",max);
	printf("Minimum number of array %d\n",min);

}
```

4.Write a C program to find second largest element in an array.

```
#include<stdio.h>
void main()
{
	int x[5],i,j,t;
	for(i=0;i<=4;i++)
	{
		printf("enter the value index  x[%d]=",i);
		scanf("%d",&x[i]);

	}
	for(j=0;j<=4;j++){

		for(i=0;i<=4;i++)
		{
			if(x[i]>x[i+1])
			{
				t=x[i];
				x[i]=x[i+1];
```

```
                        x[i+1]=t;
                    }
                }

        }
            printf("second element %d ",x[i-2]);

}
```

5. Write a C program to copy all elements from an array to another array.

```
#include<stdio.h>
void main()
{
        int x[5],i,j,z[5];
        for(i=0;i<=4;i++)
        {
            printf("enter the value index  x[%d]=",i);
            scanf("%d",&x[i]);

        }

        for(i=0;i<=4;i++)
        {
         z[i]=x[i];
        }
            for(i=0;i<=4;i++)
        {
         printf("x[%d]",x[i]);
        }
        printf("\n\n");
        for(i=0;i<=4;i++)
        {
         printf("z[%d]",z[i]);
        }
}
```

6. Write a C program to insert an element in an array.

7. Write a C program to delete an element from an array at specified position.

```
#include<stdio.h>
void main()
{
        int x[5],i,n;
        for(i=0;i<=4;i++)
        {
            printf("enter the value index  x[%d]=",i);
            scanf("%d",&x[i]);
```

```
        }
        printf("enter the number u want to delete     ");
        scanf("%d",&n);
        for(i=n;i<=4;i++)
        {
                x[i]=x[i+1];
        }
        for(i=0;i<4;i++)
        {
                 printf("%d      ",x[i]);
        }
}
```

8. Write a C program to print all unique elements in the array.

```
#include<stdio.h>
 void main()
 {
        int x[]={5,6,6,6,10,10,45,56,56,56,78};
        int i,t,c;
        for(i=0;i<10;)
        {
                t=x[i];
                c=0;
                while(t==x[i])
                {
                        c++;
                        i++;
                 }
                 if(c==1)
                 {
                        printf("UNIQUE NUMBER %d ",t);
                 }
         }
 }
```

9. Write a C program to print all negative elements in an array.

```
#include<stdio.h>
void main()
{
        int x[5],i;
        for(i=0;i<=4;i++)
        {
                printf("Enter the value of index:x[%d] : ",i);
                scanf("%d",&x[i]);
        }
```

```
	for(i=0;i<=4;i++)
	{
		if(x[i]<0)
		{
			printf(" Negtive Element %d\n   ",x[i]);
		}
	}
}
```

10. Write a C program to count total number of even and odd elements in an array.

```
#include<stdio.h>
void main()
{
	int x[5],i,e=0,o=0;
	for(i=0;i<=4;i++)
	{
		printf("Enter the value of index:x[%d] : ",i);
		scanf("%d",&x[i]);
	}


	for(i=0;i<=4;i++)
	{
		if(x[i]%2==0)
		{
		e++;
		}
		else
		{
			o++;
		}
	}
	printf("Total even number are :%d",e);
		printf("Total odd number are :%d",o);


}
```

11. Write a C program to count total number of negative elements in an array.

```
#include<stdio.h>
void main()
{
	int x[5],i,c=0;
	for(i=0;i<=4;i++)
	{
```

```
            printf("Enter the value of index:x[%d] : ",i);
            scanf("%d",&x[i]);
        }


        for(i=0;i<=4;i++)
        {
            if(x[i]<0)
            {
                c++;
            }
        }
                                printf("Total Negtive Element %d\n   ",c);

}
```

12. Write a C program to count total number of duplicate elements in an array.

```
#include<stdio.h>
 void main()
 {
        int x[]={5,6,6,6,10,10,45,56,56,56,78};
        int i,t,c;
        for(i=0;i<10;)
        {
            t=x[i];
            c=0;
            while(t==x[i])
            {
                c++;
                i++;
             }
             if(c>1)
             {
                printf("Duplicate  NUMBER %d ",t);
             }
         }
 }
```

13.Write a C program to delete all duplicate elements from an array.

```
#include<stdio.h>
void main(){
int x[7];
int i,j,k,t,n=7;

for(i=0;i<=6;i++)
```

```
{
        printf("Enter the number at x[%d] :",i);
        scanf("%d",&x[i]);
}

for(i=0;i<n;i++)
{
        for(j=i+1;j<n;j++)
        {
                if(x[i]==x[j])
                {
                        for(k=j;k<n;k++)
                        {
                                x[k]=x[k+1];
                        }
                        n--;
                        j--;
                }
        }
}
for(i=0;i<n;i++)
{
        printf("%d,",x[i]);
}

}
```

14. Write a C program to count frequency of each element in an array.

```
#include<stdio.h>
 void main()
 {
        int x[]={5,6,6,6,10,10,45,56,56,56,78};
        int i,t,c;
        for(i=0;i<10;)
        {
                t=x[i];
                c=0;
                while(t==x[i])
                {
                        c++;
                        i++;
                 }
                 printf("%d occurs %d times\n",x[i],c);
         }
 }
```

15. Write a C program to merge two array to third array.

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

```
void main()
{
	int x[5],y[3],z[8],i;
	for(i=0;i<=4;i++)
	{
		printf("Enter the value of index:x[%d] : ",i);
		scanf("%d",&x[i]);
	}
	for(i=0;i<=2;i++)
	{
	printf("Enter the value of index:y[%d] : ",i);
		scanf("%d",&y[i]);

	}
	for(i=0;i<=4;i++)
	{
		z[i]=x[i];
	}
	for(i=0;i<=2;i++)
	{
		z[5+i]=y[i];
	}

	for(i=0;i<=7;i++)
	{
		printf(" %d   ",z[i]);
	}



}
```

16. Write a C program to find reverse of an array.

```
#include<stdio.h>
void main()
{
	int x[5],z[5],i;
	for(i=0;i<=4;i++)
	{
		printf("Enter the value of index:x[%d] : ",i);
		scanf("%d",&x[i]);
	}
	for(i=0;i<=4;i++)
	{
		z[i]=x[4-i];
	}
	 for(i=0;i<=4;i++)
```

```
{
        printf("%d    ",z[i]);
}
```

17. Write a C program to put even and odd elements of array in two separate array.

```
#include<stdio.h>
void main()
{
        int x[5],z[5],s[5],i,j=0,k=0;
        for(i=0;i<=4;i++)
        {
                printf("Enter the value of index:x[%d] : ",i);
                scanf("%d",&x[i]);
        }

        printf("Normal array");
        for(i=0;i<=4;i++)
                 {
                        printf("  %d  ",x[i]);
                 }
                 printf("\n\n");



                for(i=0;i<=4;i++)
                        {
                         if (x[i]%2==0)
                {
                        z[j]=x[i];
                        j++;
                }
                 else if (x[i]%2!=0)
                {
                                s[k]=x[i];
                        k++;
                }

        }
                printf("Even array");

        for(i=0;i<j;i++)
                 {

                        printf("  %d  ",z[i]);
                 }
                 printf("\n\n");
```

```
                    printf("Odd array");

                for(i=0;i<k;i++)
                {

                        printf("  %d  ",s[i]);
                }


}
```

18. Write a C program to search an element in an array.

```
#include<stdio.h>
void main()
{
        int x[5],i,n;
        for(i=0;i<=4;i++)
        {
                printf("enter the value index  x[%d]=",i);
                scanf("%d",&x[i]);

        }
        printf("enter the number u want to search  =   ");
        scanf("%d",&n);
        for(i=0;i<=4;i++)
        {
                if(x[i]==n)
                {
                        printf("postion is %d",i);
                }
        }

}
```

19. Write a C program to sort array elements in ascending order.

```
#include<stdio.h>
void main()
{
        int x[5],i,t,j;
        for(i=0;i<=4;i++)
        {
                printf("Enter the value of index:x[%d] : ",i);
                scanf("%d",&x[i]);
        }
        for(i=0;i<=4;i++)
```

```
        {
                for(j=0;j<=4;j++)
        {
            if(x[j]>x[j+1])
            {
                t=x[j];
                x[j]=x[j+1];
                x[j+1]=t;
            }
        }

}
        for(i=0;i<=4;i++)
        {
        printf("%d  ",x[i]);
                                                }

}
```

20. Write a C program to sort array elements in descending order.

```
#include<stdio.h>
void main()
{
        int x[5],i,t,j;
        for(i=0;i<=4;i++)
        {
            printf("Enter the value of index:x[%d] : ",i);
            scanf("%d",&x[i]);
        }
        for(i=0;i<=4;i++)
        {
                for(j=0;j<=4;j++)
        {
            if(x[j]<x[j+1])
            {
                t=x[j];
                x[j]=x[j+1];
                x[j+1]=t;
            }

        }

}
        for(i=0;i<=4;i++)
        {
```

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

        }
        }
```

21. Write a C program to sort even and odd elements of array separately.

```
 #include<stdio.h>
void main()
{
        int x[5],y[5],z[5],s[5],i,j,t,p=0,k=0 ;
        for(i=0;i<=4;i++)
        {
                printf("Enter the number at index at x[%d] :",i);
                scanf("%d",&x[i]);
        }
        for(i=0;i<4;i++)
        {
                for(j=0;j<4;j++)
                {
                        if(x[j]>x[j+1])
                        {
                                t=x[j];
                                x[j]=x[j+1];
                                x[j+1]=t;
                        }
                }

        }

                printf("Normal array");

                for(i=0;i<=4;i++)
                {
```

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

            }




for(i=0;i<=4;i++)
{
                        if (x[i]%2==0)

            {
                        z[p]=x[i];
                        p++;
            }
             else if (x[i]%2!=0)
            {
                                    s[k]=x[i];
                        k++;
            }

}
printf("\nEven array");
for(i=0;i<p;i++)
             {

                        printf("  %d  ",z[i]);
             }
             printf("\n\n");
                                    printf("Odd array");

             for(i=0;i<k;i++)
```

```
                {


                        printf("  %d  ",s[i]);
                }




}
```