Assignment - 14 A Job Ready Bootcamp in C++, DSA and IOT MySirG

Array in C Language

1. Write a program to calculate the sum of numbers stored in an array of size 10. Take array values from the user.

```c
#include<stdio.h>
int sum(int a[]);
int main()
{
    int a[10];
    printf("enter 10 value: ");
    for(int i=0;i<10;i++)
    {
        scanf("%d",&a[i]);

    }
     printf("sum of your number is %d",sum(a));

}
int sum(int a[])
{
    int s=0;
    for (int  i = 0; i < 10; i++)
    {
        s=s+a[i];
    }
    return s;

}
```

2. Write a program to calculate the average of numbers stored in an array of size 10. Take array values from the user.

```c
#include<stdio.h>
int sum(int a[]);
int main()
{
    int a[10];
    printf("enter 10 value: ");
    for(int i=0;i<10;i++)
    {
        scanf("%d",&a[i]);
```

```
    }
     printf("average of your number is %d",sum(a));

}
int sum(int a[])
{
    int s=0;
    for (int  i = 0; i < 10; i++)
    {
        s=s+a[i];
    }
    return s/10;

}
```

3. Write a program to calculate the sum of all even numbers and sum of all odd numbers, which are stored in an array of size 10. Take array values from the user.

```
#include<stdio.h>
int main()
{
    int a[10],even=0,odd=0;
    printf("Enter the value: ");
    for (int i = 0; i < 10; i++)
    {
      scanf("%d",&a[i]);
    }
    for (int i = 0; i < 10; i++)
    {
        if(a[i]%2==0)
        {
            even=even+a[i];
        }
        else
        odd=odd+a[i];
    }
    printf("\nsum of odd %d",odd);
    printf("\nsum of odd %d",even);
    return 0;
}
```

4. Write a program to find the greatest number stored in an array of size 10. Take array values from the user.

```c
#include<stdio.h>
int main()
{
    int a[10],greatest=0;
    printf("enter the element in array: ");
    for(int i=0;i<10;i++)
    {
    scanf("%d",&a[i]);
    }
    for(int i=0;i<10;i++)
    {
        if(a[i]>greatest)
        greatest=a[i];
    }
    printf("greatest number is %d",greatest);
    return 0;
}
```

5. Write a program to find the smallest number stored in an array of size 10. Take array values from the user.

```c
#include<stdio.h>
int main()
{
    int a[10],min;
    printf("enter the value in array: ");
    for(int i=0;i<10;i++)
    scanf("%d",&a[i]);
    min=a[0];
    for(int i=0;i<10;i++)
    {
        if(min>a[i])
        {
            min=a[i];
        }
    }
    printf("the minimum value is %d ",min);
    return 0;
}
```

6. Write a program to sort elements of an array of size 10. Take array values from the user.

```c
#include<stdio.h>
int main()
{
    int a[10],index,temp,min;
    printf("enter the value  in the array: ");
    for(int i=0;i<10;i++)
    {
        scanf("%d",&a[i]);
    }
    for(int i=0;i<10;i++)
    {

        temp=a[i];
        index=i;
        for (int j = 0; j < 10; j++)
        {
            if(min>a[j])
            {
                min=a[j];
                index=j;
            }

        }
            temp=a[i];
            a[i]=a[index];
            a[index]=temp;
    }


    for (int i = 0; i < 10; i++)
    {
        printf("%d ",a[i]);
    }

    return 0;
}
```

7. Write a program to find second largest in an array.Take array values from the user.

```c
#include<stdio.h>
int main()
{
    int a[10],max,index;
    printf("enter array:");
    for(int i=0;i<10;i++)
    {
        scanf("%d",&a[i]);
    }

    //soorting
    for(int i=0;i<3;i++)
    {
        max=a[i];
        index=i;
        for(int j=i;j<10;j++)
        {
            if(max<a[j])
            {
                max=a[j];
                index=j;
            }
        }
        int temp;
        temp=a[i];
        a[i]=max;
        a[index]=temp;

    }
    // for (int i = 0; i < 10; i++)
    // {
    //     printf("%d ",a[i]);
    // }

    printf("%d is second largest number",a[1]);
    return 0;
}
```

8. Write a program to find the second smallest number in an array.Take array values from the user.

```c
#include<stdio.h>
int main()
{
    int a[10],index,temp,min;
    printf("enter array value: ");
    for(int i=0;i<10;i++)
    {
        scanf("%d",&a[i]);
    }
    for(int i=0;i<2;i++)
    {
        index=i;
        min=a[i];
        for(int j=i;j<10;j++)
        {
            if(a[j]<min)
            {
                min=a[j];
                index=j;
            }
        }
        temp=a[i];
        a[i]=min;
        a[index]=temp;
    }
    printf("%d is second smallest number",a[1]);
    return 0;
}
```

9. Write a program in C to read n number of values in an array and display it in reverse order. Take array values from the user.

```c
#include<stdio.h>
int main()
{
    int n,temp;
    printf("enter the no, element in array: ");
    scanf("%d",&n);
    int arr[100];
    printf("enter the value in array: ");
    for(int i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(int i=0;i<n/2;i++)
    {
        temp=arr[n-i-1];
        arr[n-i-1]=arr[i];
        arr[i]=temp;
    }
    printf("\n");
for(int i=0;i<n;i++)
{
    printf("%d ",arr[i]);
}

return 0;
}
```

10. Write a program in C to copy the elements of one array into another array.Take array

```c
#include<stdio.h>
int main()
{
    int a[100],copy[100],n;
    printf("enter the numbetr of element in array: ");
    scanf("%d",&n);
    for(int i=0;i<n;i++)
    {
        scanf("%d",&a[i]);
    }
    for(int i=0;i<n;i++)
```

```
    {
        copy[i]=a[i];
    }
    for(int i=0;i<n;i++)
    printf("%d ",copy[i]);
    return 0;
}
```