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

**Array in C Language**

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/\*1. Write a program to calculate the sum of numbers stored in an array of size 10. Take

array values from the user.\*/

#include<stdio.h>

int main()

{

    int a[10],i,n,sum=0;

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

    scanf("%d",&n);

    printf("Enter the array %d elements:\n",n);

    for(i=0; i<n; i++)

    {

        scanf("%d",&a[i]);

    }

    printf("Sum of the elements:\n");

    for(i=0; i<n; i++)

    {

        sum = sum+a[i];

    }

    printf("%d",sum);

    return 0;

}

/\*2. Write a program to calculate the average of numbers stored in an array of size 10.

Take array values from the user.\*/

#include<stdio.h>

int main()

{

    int a[10],i,n,sum=0;

    float avg;

    printf("Enter the array size:");

    scanf("%d",&n);

    printf("Enter the array %d elements:\n",n);

    for(i=0; i<n; i++)

        scanf("%d",&a[i]);

    for(i=0; i<n; i++)

    {

        sum = sum+a[i];

        avg = sum/n;

    }

    printf("Sum of the number %d\n",sum);

    printf("Average %.2f\n",avg);

    return 0;

}

//3. Write a program to calculate the sum of all even numbers and sum of all odd

#include<stdio.h>

int main()

{

    int n,a[10],i;

    int even=0,odd=0;

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

    scanf("%d",&n);

    printf("Enter the array %d elements:\n",n);

    for(i=0; i<n; i++)

    {

        scanf("%d",&a[i]);

    }

    printf("Array Elements:\n");

    for(i=0; i<n; i++)

    {

        if(a[i]%2==0)

        {

            even = even+a[i];

        }

        else

        {

            odd = odd+a[i];

        }

    }

    printf("Sum of all even %d\n", even);

    printf("Sum of all odd %d\n",odd);

}

/\*4. Write a program to find the greatest number stored in an array of size 10. Take array

values from the user.\*/

#include<stdio.h>

int main()

{

    int n,a[10];

    int i,b;

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

    scanf("%d",&n);

    printf("Enter the array %d elements:\n",n);

    for(i=0; i<n; i++)

    {

        scanf("%d",&a[i]);

    }

    b = a[0];

    for(i=0; i<n; i++)

    {

        if(b<a[i])

        {

            b = a[i];

        }

    }

    printf("Greatest number:%d\n", b);

}

/\*5. Write a program to find the smallest number stored in an array of size 10. Take array

values from the user.\*/

#include<stdio.h>

int main()

{

    int n,a[10];

    int i,b;

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

    scanf("%d",&n);

    printf("Enter the array %d elements:\n",n);

    for(i=0; i<n; i++)

    {

        scanf("%d",&a[i]);

    }

    b = a[0];

    for(i=0; i<n; i++)

    {

        if(b>a[i])

        {

            b = a[i];

        }

    }

    printf("Smallest number:%d\n", b);

}

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

user\*/

#include<stdio.h>

int main()

{

    int n,a[10],i,j,temp=0;

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

    scanf("%d",&n);

    printf("Enter the array %d elements:\n",n);

    for(i=0; i<n; i++)

    {

        scanf("%d",&a[i]);

    }

    for(i=0; i<n; i++)

    {

        for(j=0; j<n; j++)

        {

            if(a[i]<a[j])

            {

                temp = a[i];

                a[i] = a[j];

                a[j] = temp;

            }

        }

    }

    printf("Ascending Order:\n");

    for(i=0; i<n; i++)

    {

        printf("%d ",a[i]);

    }

    printf("\nDescending Order:\n");

    for(i=n-1; i>=0; i--)

    {

        printf("%d ",a[i]);

    }

}

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

#include<stdio.h>

int main()

{

    int n,a[10];

    int i,b,c;

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

    scanf("%d",&n);

    printf("Enter the array %d elements:\n",n);

    for(i=0; i<n; i++)

    {

        scanf("%d",&a[i]);

    }

    b = c = a[0];

    for(i=0; i<n; i++)

    {

        if(b>a[i])

            b = a[i];

        if(c<a[i])

            c = a[i];

    }

    printf("First number is greatest:%d\n", b);

    printf("Second number is greatest:%d",c);

}

/\*8. Write a program to find the second smallest number in an array.Take array values

from the user\*/

#include <stdio.h>

int main()

{

    int a[50], i, n, f, s;

    printf("Enter the array elements:");

    scanf("%d", &n);

    printf("Enter the %d array elements:\n", n);

    for (i = 0; i < n; i++)

    {

        scanf("%d", &a[i]);

    }

    s = f = a[0];

    for (i = 0; i < n; i++)

    {

        if (f < a[i])

        {

            s = f;

            f = a[i];

        }

        else if (f > a[i] && s < a[i])

        {

            s = a[i];

        }

    }

    printf("First number is largest: %d\n", f);

    printf("Second number is largest: %d\n", s);

    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.\*/

#include<stdio.h>

int main()

{

    int a[10],n,i;

    printf("Enter the array elements:");

    scanf("%d",&n);

    printf("Enter the array %d elements:\n",n);

    for(i=0; i<n; i++)

    {

        scanf("%d",&a[i]);

    }

    printf("Reverse of the number:\n");

    for(i=n-1; i>=0; i--)

    {

        printf("%d ",a[i]);

    }

    return 0;

}

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

values from the user.\*/

#include <stdio.h>

int main()

{

    int a[50], a1[50], i, n;

    printf("Enter the elements:");

    scanf("%d", &n);

    printf("Enter the %d array elements:\n", n);

    for (i = 0; i < n; i++)

    {

        scanf("%d", &a[i]);

        a1[i] = a[i];

    }

    printf("Copy all elements array:\n");

    for (i = 0; i < n; i++)

    {

        printf("%d\n", a1[i]);

    }

    return 0;

}