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.

```c
#include <stdio.h>

int main()
{
    int a[10], i, sum = 0;
    printf("Enter 10 values: ");
    for (i = 0; i < 10; i++)
    {
        scanf("%d", &a[i]);
        sum += a[i];
    }
    printf("\n Sum is: %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.

```c
#include <stdio.h>

int main()
{
    int a[10], i, sum = 0;
    float avg;
    printf("Enter 10 values: ");
    for (i = 0; i < 10; i++)
    {
        scanf("%d", &a[i]);
```

```
        sum += a[i];
    }
    printf("\n Avg is: %f", sum / 10.0);
    return 0;
}
```

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], i, se = 0, so = 0;
    float avg;
    printf("Enter 10 values: ");
    for (i = 0; i < 10; i++)
    {
        scanf("%d", &a[i]);
        if (a[i] % 2 == 0)
            se += a[i];
        else
            so += a[i];
    }
    printf("\nEven Sum is: %d \nOdd Sum is: %d", se, so);
    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 grtNum(int[], int);
int main()
{
    int a[10], i, n = 10;
    printf("Enter 10 values: ");
    for (i = 0; i < 10; i++)
        scanf("%d", &a[i]);
    printf("\ngreatest number is: %d", grtNum(a, n));
    return 0;
}

int grtNum(int b[], int n)
{
    int max, i = 0;
    max = b[i];
    for (i = 1; i < 10; i++)
    {
        if (max > b[i])
            continue;
        else
        {
            max = b[i];
        }
    }
    return max;
}
```

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 smallNum(int[], int);
int main()
{
    int a[10], i, n = 10;
    printf("Enter 10 values: ");
    for (i = 0; i < 10; i++)
        scanf("%d", &a[i]);
    printf("\nsmallest number is: %d", smallNum(a, n));
    return 0;
}

int smallNum(int b[], int n)
{
    int min, i = 0;
    min = b[i];
    for (i = 1; i < 10; i++)
    {
        if (min < b[i])
            continue;
        else
        {
            min = b[i];
        }
    }
    return min;
}
```

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], n = 10, temp, i, j;
    printf("Enter 10 values: ");
    for (i = 0; i < n; i++)
        scanf("%d", &a[i]);
    // sort
    for (i = 0; i < n; i++)
    {
        for (j = i + 1; j < n; j++)
        {
            if (a[i] > a[j])
            {
                temp = a[i];
                a[i] = a[j];
                a[j] = temp;
            }
        }
    }
    // displaying sorted arrays
    for (i = 0; i < n; 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], n = 10, temp, i, j;
    printf("Enter 10 values: ");
    for (i = 0; i < n; i++)
        scanf("%d", &a[i]);
    // sort
    for (i = 0; i < n; i++)
    {
        for (j = i + 1; j < n; j++)
        {
            if (a[i] > a[j])
            {
                temp = a[i];
                a[i] = a[j];
                a[j] = temp;
            }
        }
    }

    // Displaying 2nd lasrgest
    if (a[n - 1] == a[n - 2])
        printf("\nSecond largest number is: %d", a[n -
3]);
    else
        printf("\nSecond largest number is: %d", a[n -
2]);
    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], n = 10, temp, i, j;
    printf("Enter 10 values: ");
    for (i = 0; i < n; i++)
        scanf("%d", &a[i]);
    // sort
    for (i = 0; i < n; i++)
    {
        for (j = i + 1; j < n; j++)
        {
            if (a[i] > a[j])
            {
                temp = a[i];
                a[i] = a[j];
                a[j] = temp;
            }
        }
    }

    // Displaying 2nd smallest
    if (a[0] == a[1])
        printf("\nSecond smallest number is: %d", a[2]);
    else
        printf("\nSecond smallest number is: %d", 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 = 1, a[n], i = 0;
    printf("\nEnter size of array");
    scanf("%d", &n);
    printf("Enter n number of values: ");
    for (i = 0; i < n; i++)
        scanf("%d", &a[i]);

    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.

```c
#include <stdio.h>

int main()
{
    int n = 1, a[n], b[n], i;
    printf("Enter size of array: ");
    scanf("%d", &n);
    printf("Enter array values: ");
    for (i = 0; i < n; i++)
        scanf("%d", &a[i]);
    // new array
    for (i = 0; i < n; i++)
        b[i] = a[i];
    // displaying new array
    for (i = 0; i < n; i++)
        printf("%d ", b[i]);
    return 0;
}
```