

## Assignment - 16



⑦ Write a program to calculate the sum of numbers stored in an array of size 10. Take array value from the user.

Ans #include <stdio.h>

```
int main()
```

```
{
```

```
    int a[10], sum=0;
```

```
    printf ("Enter 10 Numbers:");
```

```
    scanf ("%d", &a[0]);
```

```
    for (int i=0; i<=9; i++)
```

```
{
```

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

```
}
```

```
    for (int i=0; i<=9; i++)
```

```
{
```

```
        sum = sum + a[i];
```

```
    }
```

```
    printf ("Sum of 10 Numbers is %d", sum);
```

```
    return(0);
```

Output: Enter 10 Numbers: 1 2 3 4 5 6 7 8 9 10

Sum of 10 Numbers is 55

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Q) write a program to calculate the average of numbers stored in an array of size 10. Take array value from the user.

Ans #include <stdio.h>  
int main()

{

    // include standard header file

    // define function

    int a[10], sum=0;

    i, avg, sum, float, for, for, for

    float avg;

    // ask user to enter 10 numbers

    printf ("Enter 10 Numbers");

    for (i=0; i<=9; i++)

{

    scanf ("%d", &a[i]);

    for (i=0; i<=9; i++)

{

    sum = sum + a[i];

    avg = sum / 10.0;

}

    printf ("average of 10 Numbers - .%f", avg);

    return 0;

    output: Enter 10 Numbers: 1 2 3 4 5 6 7 8 9 10

    average of 10 Numbers 5.500000

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.

```
Ans #include <stdio.h>
int main()
{
    int a[10], b[10], sum=0, s=0, i;
    printf("Enter 10 Even Numbers:");
    for(i=0; i<=9; i++)
    {
        scanf("%d", &a[i]);
    }
    printf("Enter 10 Odd Numbers:");
    for(i=0; i<=9; i++)
    {
        scanf("%d", &b[i]);
    }
    sum = sum + a[i];
    s = s + b[i];
    printf("Sum of 10 Even Numbers is %d", sum);
    printf("Sum of 10 Odd Numbers is %d", s);
    return(0);
}
```



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

Ans

```
#include <stdio.h>
int main()
{
    int a[10], max = 0, i;
    printf ("Enter any 10 Numbers:");
    for (i = 0; i <= 9; i++)
    {
        scanf ("%d", &a[i]);
        if (a[i] >= max)
            max = a[i];
    }
    printf ("Maximum Number is %d", max);
    return 0;
}
```

Output: Enter any 10 Numbers:

10 20 30 55 11 13 12 14 32

Maximum Number is 55

Q) Write a program to find the smallest number stored in an array of size 10.  
Take array value from the user.

Ans

```
#include <stdio.h>
int main()
{
    int a[10], min, i;
    printf("Enter 10 Element: ");
    for(i=0; i<=9; i++)
    {
        scanf("%d", &a[i]);
    }
}
```

```
    min = a[0];
    for(i=0; i<=9; i++)
    {
        if(a[i] < min)

```

```
            min = a[i];
    }
```

~~Point~~

```
    printf("Minimum Element is %d", min);
```

Output: Enter 10 Element:

10 20 30 5 3 2 4 6 8 11

Minimum Element is 2

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

Ans #include <stdio.h>

int main()

{

int a[10]

printf("Enter 10 numbers in array");

for (i=0; i<=9; i++)

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

for (i=0; i<=9; i++)

{

for (j=i+1; j<=9; j++)

{ if (a[i] > a[j])

if (a[i] > a[j])

{

temp = a[i];

a[i] = a[j];

a[j] = temp;

printf("%d", a[i]);

Output:

Enter 10 Numbers in array: 10 3 4 5 9 7 11 24 34

1 3 4 5 7 8 10 11 24 34

(Ans: 1 3 4 5 7 8 10 11 24 34)





Q) Write a function to find the smallest number from the given array of any size - (TSRS)

Ans

```
#include<stdio.h>
int sm(int, int []);
int main()
{
    int n; // size of array
    printf("Enter a array [size: ");
    scanf("%d", &n);
    int i, a[n], k;
    printf("Enter Number of array: ");
    for(i=0; i<n; i++)
    {
        scanf("%d", &a[i]);
    }
    k = sm(a, n);
    printf("Minimum number is %d, k");
}

int sm(int m, int b[])
{
    int min;
    min = b[0];
    for(int j=0; j<m; j++)
    {
        if(b[j] < min)
            min = b[j];
    }
    return min;
}
```

Q16) Write a program to calculate the sum of two matrices each of order  $3 \times 3$ .

Ans #include <stdio.h>

```
int main()
{
    int a[3][3], b[3][3], sum[3][3];
    printf("First array Enter 9 Element:");
    for (int i=0; i<=2; i++)
        for (int j=0; j<=2; j++)
            scanf("%d", &a[i][j]);
    printf("Second array Enter 9 Element:");
    for (int i=0; i<=2; i++)
        for (int j=0; j<=2; j++)
            scanf("%d", &b[i][j]);
    printf("2 matrix sum\n");
    for (int i=0; i<=2; i++)
        for (int j=0; j<=2; j++)
            sum[i][j] = a[i][j] + b[i][j];
    printf("Sum\n");
    for (int i=0; i<=2; i++)
        for (int j=0; j<=2; j++)
            printf("%d ", sum[i][j]);
}
```



printf(" + ");

printf("\n");

for (int i=0; i<=2; i++)

{

for (int j=0; j<=2; j++)

{

printf("%d", b[i][j]);

}

}

printf("\n");

printf("-----\n");

for (int i=0; i<=2; i++)

{

for (int j=0; j<=2; j++)

{

sum = a[i][j] + b[i][j];

printf("%d", sum);

}

return 0;

}

Output:

First array Enter 9 Element

1 1 1  
2 2 2  
3 3 3

(+ +) next, 3rd tri loop

Second array Enter 9 Element

4 4 4  
5 5 5  
6 6 6

2 matrix (Sum) 9x9

1 1 1

2 2 2

3 3 3

4 4 4

5 5 5

6 6 6

5 5 5

7 7 7

9 9 9



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- Q12. Write a program in C to find the transpose of a given matrix.

Ans #include <stdio.h>

int main()

{

<H. include < stdio.h >>

int a[2][2], i, j, n, m;

Point f ("Enter n, m element");

for (i=0; i<=1; i++)

{ for (j=0; j<=1; j++)

{

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

}

if (i == 1) break;

for (i=0; i<=1; i++)

{

for (j=0; j<=1; j++)

{

point f ("%d", a[j][i]);

}

return 0;