**ARRAYS:-**

* Array is a linear collection of similar elements.
* Array is a group of similar elements..like if there is no names of each index then how we can access all. Then we can use basically array name like with this syntax;

Array name[size] ; // a[10];

A[0]=12; // means index no 0 me store ki gai koi value

We can declare a position numbers of array as a index because in array we have to count starting from 0.like a[1];

An array is defined as an ordered set of similar data items.all the data items of an array are stored in memory location. Foe example consider an array of marks of 5 students like;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 80 | 90 | 45 | 99 | 100 |

Marks(0) marks(1) marks(2) marks(3) marks(4)

Using marks[0] through marks[4] we can access the marks of 5 students.

Single dimensional

ARRAY

Two-dimensional/multi

Single diamensional:- its array is a linear list of related and similar data items. In memeory all the data items are stored in memory location one after another.

Array

marks(0) marks(1) marks(2 marks(3) marks(4)

**Data**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 100 | 80 | 99 | 76 | 90 |

1000-1001 1002-1003 1004-1005 1006-1007 1008-1009

2byte 2byte 2byte 2byte 2byte

WAP how we can store n of elements in array index…like 14,28,42,56,70 here 5 values which we want to store arrays as a elements.

#include<stdio.h>

Main()

{

Int a[5]={14,28,42,56,70};

Int i; loop

For(i=0;i<5;i++)

{

Printf(“a[%d] has a value of %d\n”,i,a[i]);

}

So here we leant how we can store elements of an array as a index.

If we want to use any character value of an index so hoe we can use it…

#include<stdio.h>

Main()

{

Int a[8]={‘f’,’r’,’i’,’e’ ‘n’,’d’,’s’,’\0’}; //we can also use int values{ 14,28,45,56,70}; like that

Int i;

For(i=0;i<5;i++)

{

Printf(“char a[%d] has a value of %c\n”,i,a[i]); here only we have to change %c to %d;

WAP TO REPRESENT SINGLE DYMENSIONAL ARRAY with find average of numbers of elements in array.

#include<stdio.h>

#include<conio.h>

Void main()

{

Int a[10] ,i,sum=0; //

Float avg;

Clrscr();

Printf(“enter 10 numbers\n”);

For(i=0;i<=9;i++) // memory me address k block k sath increment phle hoga jo ki value leker jayga //kisi array me

Scanf(“%d”,&a[i]);

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

Sum=sum+a[i];

Avg=sum/10.0;

Printf(“average is %f”,avg);

Getch();

}

If we have enterd 11,22,33,44,55,66,77,88,99,101, or any values of an array then it will be reprents avrg of this numbers of elements which used in array.

**TWO OR MULTIDYMENTIONAL ARRAY**

If two sets of square brackets are called two dimensional array according to rows and columns.

2d arrays used when data items are arranged row wise and column wisein a tabular formate.

Syntax arrayname[exp1][exp2] ; //n elemnts are also can be declared easily there

Here we have to know about any index name of any declaration of an array.

Like here lots of exp.are.

{1,2,3};

{4,5,6};

{7,8,9};

{10,11,12};

So we can declare them row and colunmn wise.

0

2

1

Here in two dimensional array we can create a matrix using row value 6 & column value 15 …. rows and column wise element …..

columns

0 1 2

Row

0 1 2 3

1 4 5 6

#include<stdio.h>

#include<conio.h>

Void main()

{

Int sub[2][3],I,j,total=0; //2 or 3 rows column k liye, I,j loop k liye, total loops k baad value add

Clrscr();

Printf(“enter 6 values”);

For(i=0;i<2;i++)

{

For(j=0,j<3;j++)

Scanf(“%d”,&sub[i][j]);

} // inner loop

// now matrix me value put krwane k liye again loop..

For(i=0;i<2;i++)

{

For(j=0;j<3;j++)

{

Printf(“\t %d”,sub[i][j]); \\ \t for line space

}

Printf(“\t %d”,total);

Total=0; // ager 0 na diya jaye to next loop me pahle ki value add hoker ayegi jo ki garbeg value hogi…………

Printf(“\n”);

}

Getch();

}

So here in output we will see a 2 D matrix using multidimensional array…

2.WAP TO FIND BIG NUMBER AND POSITION USING OF array…

Void main()

{

Int a[10],n,i,big,pos;

Printf(“enter numbers of elements\n”);

Scanf(“%d”,&n);

Printf(“enter the elements\n”);

For(i=0;i<=n-1;i++)

Scanf(“%d”,&a[i]);

Big=a[0]; // memory a[0] address

Pos=0;

For(i=1;i<=n-1;i++)

{

If(a[i]>big)

{

Big=a[i];

Pos=i;

}

}

Printf(“largest=%d\n”,big);

Printf(“positions=%d\n”,pos+1);

}

**STRING IN C**

String is a group of characters. About string recognization we have to use several times the stmt printf(“enter the value of n”);

In array of charactors is called string like we wanna insert index as s character ,string,

**Strlen[str];**

**here we can use this prototype for using string length..**

Wap to implement the string length?

#include<stdio.h>

Main()

{

Char str[20];

Int i;

Printf(“enter the string\n”);

Gets(str);

I=0;

While(str[i]!=’\0’)

\\ ‘\0’ ye null charactoe h jo ki printable symbol nahi h y sirf unlimited elemnents ko store karwa pane k liye use kiya jata h . jese hume jab pata hota h ki kitne size leni h array ki to hum, length predefine karte h jese a[5]; par jab hum user se koi name ya value run time par enter karwate h to hum loop k liye is null ko use karege ki length jab tak index me store hoti rahe tab tak null ’\o’ 0 na aa jaye…. like While(str[i]!=’\0’) y while loop k stmt.

I++;

Printf(“length=%d\n”,i);

}

Output will be appear if we can put any string then we can know about storage length in index elements……prashant me 8 length use hue h ..

WAP TO PUT NAME USING STRING…?

Main()

{

Char s [10] = {‘s’,’a’,’u’,’r’,’a’,’b’,’h’,’\0’};

Int i;

Clrscr();

//Printf(“%s”,s);

//puts(s);

}

WAP TO PRINT A NAME ACCORDING TO USER INPUT..?

Main()

{

Char s[20];

Int I;

Clrscr();

Printf(“enter a name”);

Scanf(“%s”,s); ya scanf(“%s”,&s[0]);

Printf(“%c”s[0]); ki jagah puts(s) ya puts(&s[0]); use kar sakte he …

In dono me single string he print hogi jese amit ,saurabh par jese he full name with space likhna chaho to bhi single string print hogi loke hum prashant sharma likh rahe h par outpur mila prashant kyki yaha scanf function space ya tab ko de limiter samjhta h..to isliye scanf ki jagah hum gets (s);

Ka use karenge y full string print karwata h.

Ese he

Printf(“%c”s[0]); ki jagah puts(s) ya puts(&s[0]); use kar sakte he …

//For(i=0;s[i]!=’\0’;i++)

WAP TO PRINT STRING LENGTH