06/01/24 PSPD

Date
Page No. 1

7) What is the difference b/w a structre & an array

	Structure	Array
i)	It is a data structure that can contain variables of different data types.	An array is a data structure that can only contains variables of same data types.
ii)	It do not require the data to be stored in consecutive memory location.	It stores data in ~~Consegutive~~ consecutive memory location.
iii)	Elements in a structure are accesed by their names.	Elements in an array are accened by their index no. (0, 1, 2...)
iv)	The operator to accen elements in a structure is the dot (.) operator.	To declare an accen elements in an array we need the square bracket ([]).
v)	Elements in a structure can be of different sizes.	Elements in an array are always of the same size.
vi)	The keyword "struct" is used to define a	It do not need a key word for declaration.

Declaration & Initialization of a structure.

~~Structures~~

A structure can be declared as follows:-

```
struct    struct_type
  {
  type variable 1;
  type variable 2;
    .
    .
    .
  };
struct  struct_type v1, v2, v3;
```

- Structure declaration starts with a struct keyword.
- Here the struct_type is known as tag.
- The struct declaration is enclosed within a pair of curly braces.
- The closing brace is always terminated with a semi-colon.
- In the structure a user can declare various structure variables such as variable 1, variable 2 and so on. These are called as member of the structure.
- Here, v_1, v_2 & v_3 are known as variables of the structure known as struct_type (tag).
- We can access the structure members such as variable 1, variable 2 by using the variables of the structure struct_type such as v_1, v_2, v_3.
  (v_1.variable 1, v_2.variable 1, v_3.variable 2)

6) WAP to define a structure and initialize its member variables. The structure will contain :- a book name, no. of pages and price of the book.

```
#include <stdio.h>
void main()
 {
struct book
  {
  char bookname [100];
    int page;
    double price;
};
struct book bk1 {"Programming in C",
                 367, 460.53};

printf("Bookname %s", bk1.bookname);
printf("pages %d", bk1.page);
printf("price: %f", bk1.price);
}
```

Output

2) WAP to read the values using scanf and assigned them to structure variables.

~~Structure value cont~~

```
#include <stdio.h>
void main()
{
struct book
{
    char bookname [100];
    int page;
    double price;
};
struct book bk1;

printf("enter bookname, page., price");
scanf("%s", bk1.bookname);
scanf("%d", bk1.page);
scanf("%lf", bk1.price)

printf("Bookname %s', bk1.Bookname);
printf("pages : %d", bk1.page);
printf("price : %f", bk1.price);
}
```