DATA STRUCTURE

- FUNDAMENTALS OF DATA STRUCTURE PART 3

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STRINGS:

- It is data structure include set of elements of char
- Ex: char st [15];
- The most important function used with string:
- **strlen(st)** return length of string

STRUCTURE

The second built in Data structure is structure. A structure is a group of variables under one name, in which each variable is identified by its own identifier, each of which is known as a member of structure.

General structure declaration statement:

Struct: struct_name

```
{   Char first [10];
    Int  midnit;
          .
          .
    Char last [20];
};
```

Structure or Recorders:

It data structure include malty type of data.

We can define the structure as following:

```
struct struct - name
{
    Data type1   field 1;
    Data type2   field 2;
  };
```

EX1:

```
#include<iostream.h>
Struct s1
{  int x;
   Char a [10];
};
Void main ()
{   s1 st;
    Cin>> st.x >> st.a;
    Cout<< st.x << st.a;
}
```

Ex2:- Write program to read and print name and average of n students.

```
#include<iostream.h>
      struct student
       {          char name [30];
                  int     avarege;  };
Void main ()
{     int n;   cin>>n;
      student arr [n];
  for (int i=0; i<n; i++)
  cin>>arr[i]. avarege x>>arr[i].name;
for (i=0; i<n; i++)
cout<<arr[i]. avarege <<"-"<<arr[i].name<<"\n";  }
```

REFERENCES

- : Introduction to Algorithms, 3rd Edition by *Thomas H. Cormen ,Charles E. Leiserson, Ronald L. Rivest, Clifford Stein*
- Introduction to Algorithms, 3rd Edition by *Thomas H. Cormen ,Charles E. Leiserson, Ronald L. Rivest, Clifford Stein*
- Elements of Programming Interviews in Java: The Insiders' Guide, by *Adnan Aziz, Tsung-Hsien Lee, Amit Prakash*
- https://github.com/careermonk/DataStructuresAndAlgorithmsMadeEasy