Algorithm Analysis:

What a program contains?

-Basically a program contains data and function.

-if you will go for any application then datas are precious for an application comparing to functions.

-As a programmer the 1st priority is to think about our data.

-That how can i structure my data/information in an efficient and secure way.

-if i will go for structuring my data then definitely i need to think about the data structure concept.

-data structure i can say these are some set of algorithm.

-data structure is not a programming language.

-these some algorithms which can be implemented by the help of any programming language.

Algorithm:

Algorithm is nothing but this is a step by step procedure to solve any problem.

Program

Programs are nothing but these are also some step by step procedure to solve any problem.

Software development lifecycle:

Analysis🡪design🡪built🡪test🡪production

Algorithm program

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1.We need write at design phase 1.At built phase

2.The person who will write 2.programming knowledge.

The algo. Should have some

Domain knowledge.

3.Any language we can use 3.programming lang.

As long as my programmer

Can able undertand.

4.these are h/w and os 4.it is h/w and os dependent.

Independent.

5.Here in case of algorithm 5.in case of program i need test

We need to analyze w.r.t my prog,whether it is working or

Time and space. Not and we need to chechow

Much memory it will take in terms

Bytes.

In terms of time and space

Function.

Characterstics of an algorithm:

1.input:Any algorithm should have some input value atleast zero.

void m1(zero argument)

{

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}

2.output:Every algorithm should return some output, if your algorithm is not returning anything then what is the use to write an algorithm.

3.definiteness:Whatever statement you will write inside the algorithm those statements should have some meaning which can be understandable by the programmer.

4.finiteness:Algorithm must be stop at some point.there may be 10 statements or 100 or 1000 or more.

5.effectiveness:never write any unnecessary statements in your algorithm.

-Write only effective statements.

How to write an algorithm:

Algorithm swap:a,b

Begin

temp = a

a=b

b=temp

end

Algo swap(a,b)

{

temp=a

a=b

b=temp

}

How to Analyze an algoritm:

1.Time:it should be time efficient.

-to analyze the time we need to get the time function.

2.space:how memory it will take.

-to analyze the space we need to calculate the space function.

3.N/W consumption

4.power consumption