**DATASTRUCTURE AND ALGORITHMS WITH C++ AND JAVASCRIPT**

**Problem Solving:**

* **First understand the problem**
* **Given Values**
* **Approchs(how to solve problem)**
* **Making program from that approach**

**Program(H-L-L)**

**Solution**

**Problem**

**Machine**

**Understandable**

**format**

**Flow chart:**

**Basically Flow chart is an diagrammatical representation of an approach**

**Components of Flow Chart:**

1. **Terminator : used for starting or ending problem flow**
2. **Input/output**
3. **Process**
4. **Decision Making**
5. **Arrows**
6. **Connector**

**Pseudo-code:**

* **Way of generic representing look of code**
* **Basically pseudo code is like a English Statements which are represents the approach of a problem**

**Questions**

**1.construct a flow chart to calculate sum of 2 numbers**

**Sum=a+b**

**Read a,b**

**Start**

**Print sum**

**End**

**Program code in Javascript**

  <script>

        let a=prompt("Enter value for a?","");

        let b=prompt("Enter value for b?","");

        let sum=a+b;

        document.write(`The sum of ${a} and ${b} is:`+sum);

    </script>

2.Calculate simple intrest?

**Start**

**End**

**Print S.I**

**S.I=P+R+T/100**

**Read P,T & R**

**Program Code in Javascript**

   <script>

        let p=prompt("Enter Value for P ?","");

        let r=prompt("Enter Value for R ?","");

        let t=prompt("Enter Value for t ?","")

        let SI=p+r+t/100;

        document.write(`The S.I is: `+SI);

    </script>

**Program Code in C++**

**#include<iostream>**

**using namespace std;**

**int main(){**

**int p,r,t,SI;**

**cout<<"Enter Values for P,R & T";**

**cin>>p>>r>>t;**

**SI=p+r+t/100;**

**cout<<"The Simple Intrest is:"<<SI;}**

**3.Average of Three Numbers**

**End**

**Print Avg**

**Avg=a=b+c/3**

**Read a,b & c**

**Start**

**Program in Javascript**

    <script>

        let a=prompt("Enter Value for a","");

        let b=prompt("Enter Value for b","");

        let c=prompt("Enter Value for c","");

        let avg=a+b+c/3;

        document.write(`The Average os ${a},${b} &${c} is:`+avg);

    </script>

**Program code in C++**

**#include<iostream>**

**using namespace std;**

**int main(){**

**int a,b,c,avg;**

**cout<<"Enter Values for a,b and c";**

**cin>>a>>b>>c;**

**avg=a+b+c/3;**

**cout<<"The Average is:"<<avg;**

**}**