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Program : BS (SE)

Subject : Programming Fundamental

Section : B

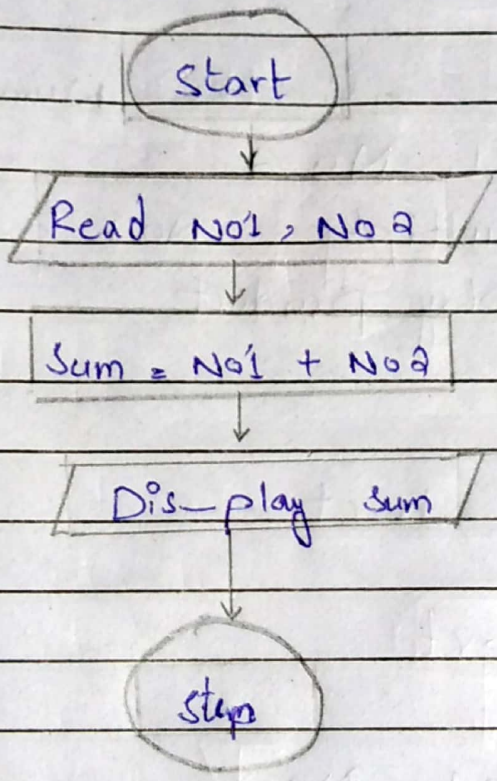
Q No 1

(a) Answer:

Sum of two number

input = No1, No.2 -
process = Add No 1 & 2.
output = Display sum.

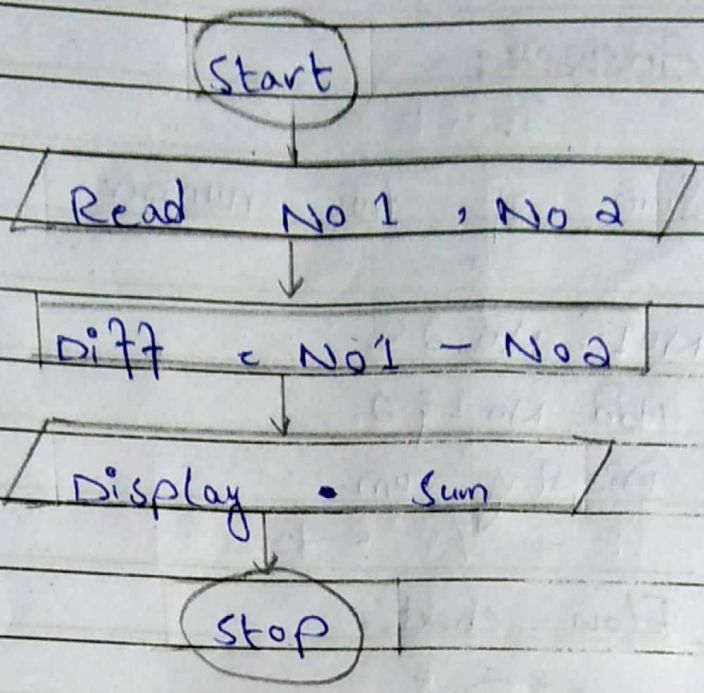
Flow chart.



Difference of two number:

input = No1, No 2
process = Substract No 1 and No 2.
out put = Display Difference

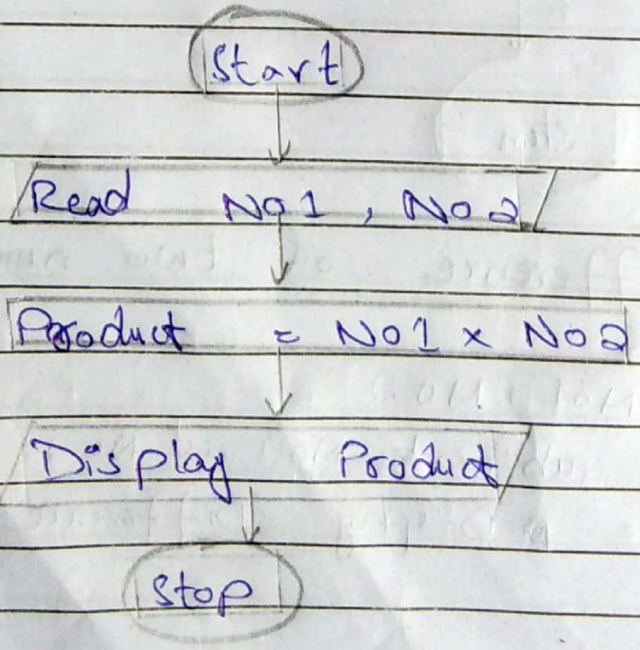
Flow chart:-



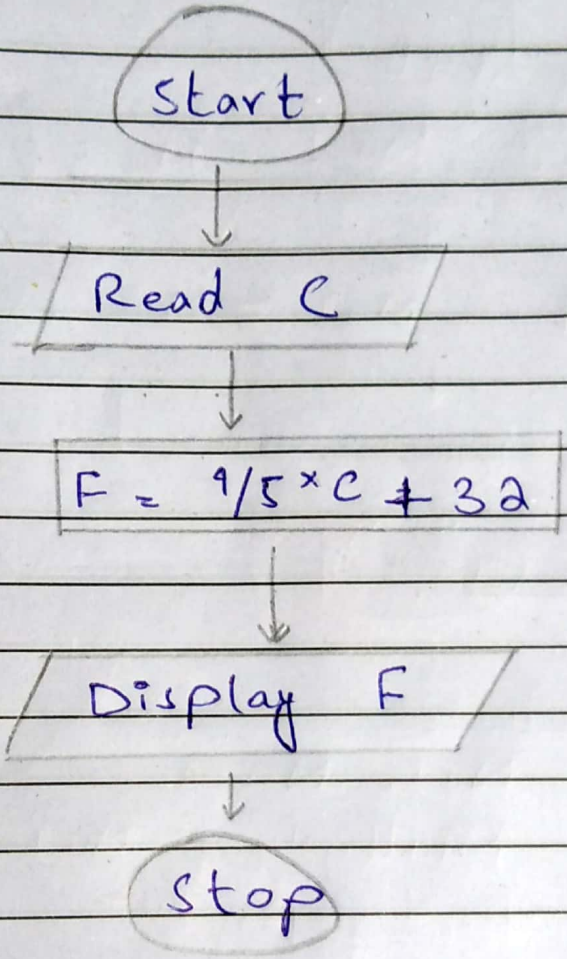
Product of the Number

input = No1, No 2
Process = Multiply No 1 & No 2
output = Display Product

Flow chart



Q NO 1 (b)



Q NO 2 (a)

Answer:-

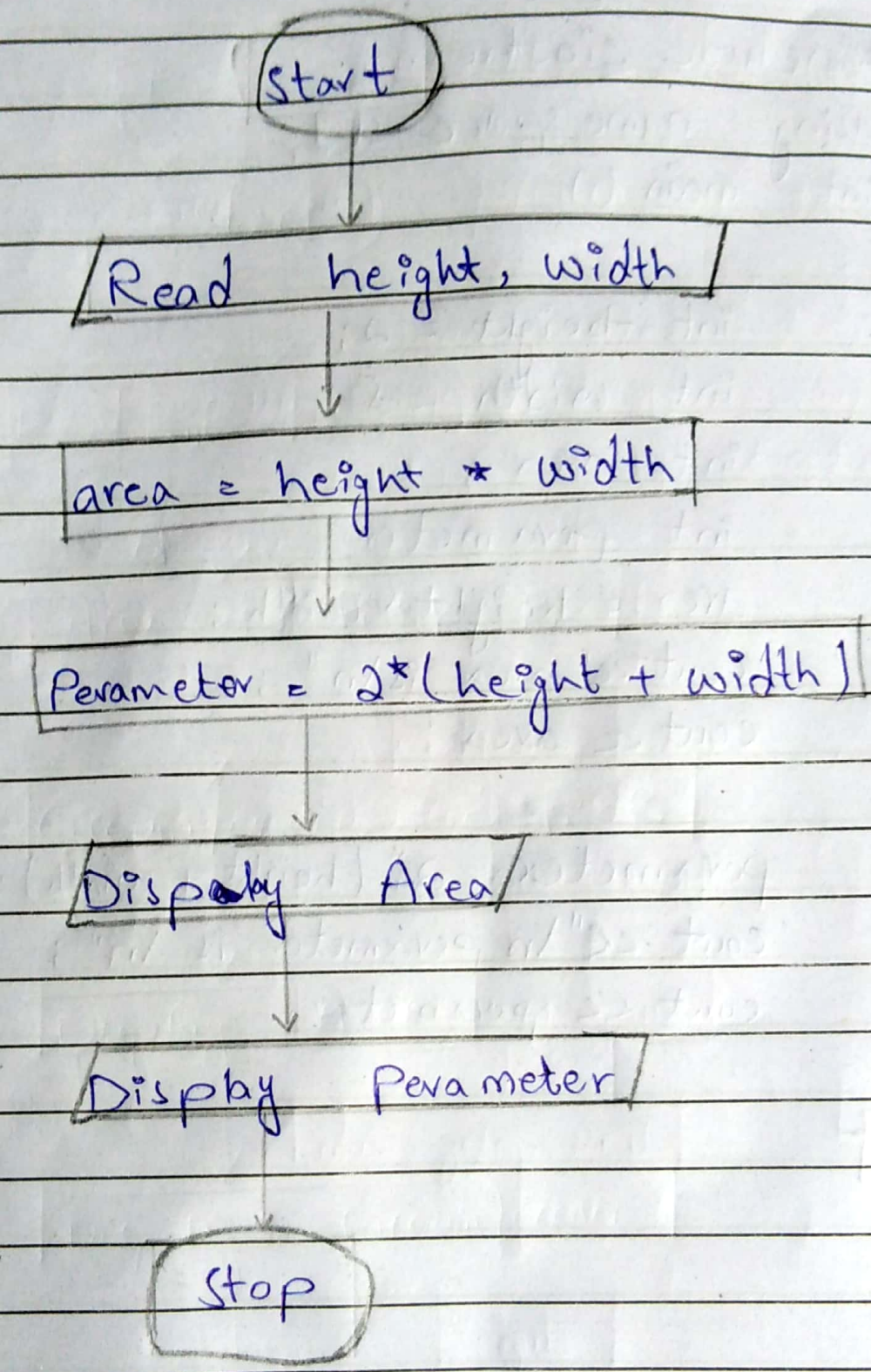
```
#include <iostream>
using namespace std;
int main ()
{
    int height = 2;
    int width = 5;
    int area ;
    int perameter ;
    area = height * width ;
    cout << " area is\n" ;
    cout << area ;

    perameter = 2* (height + width);
    cout <<"\n perameter is \n" ;
    cout << perameter;

}
```

Q No 2 (a)

Flow chart



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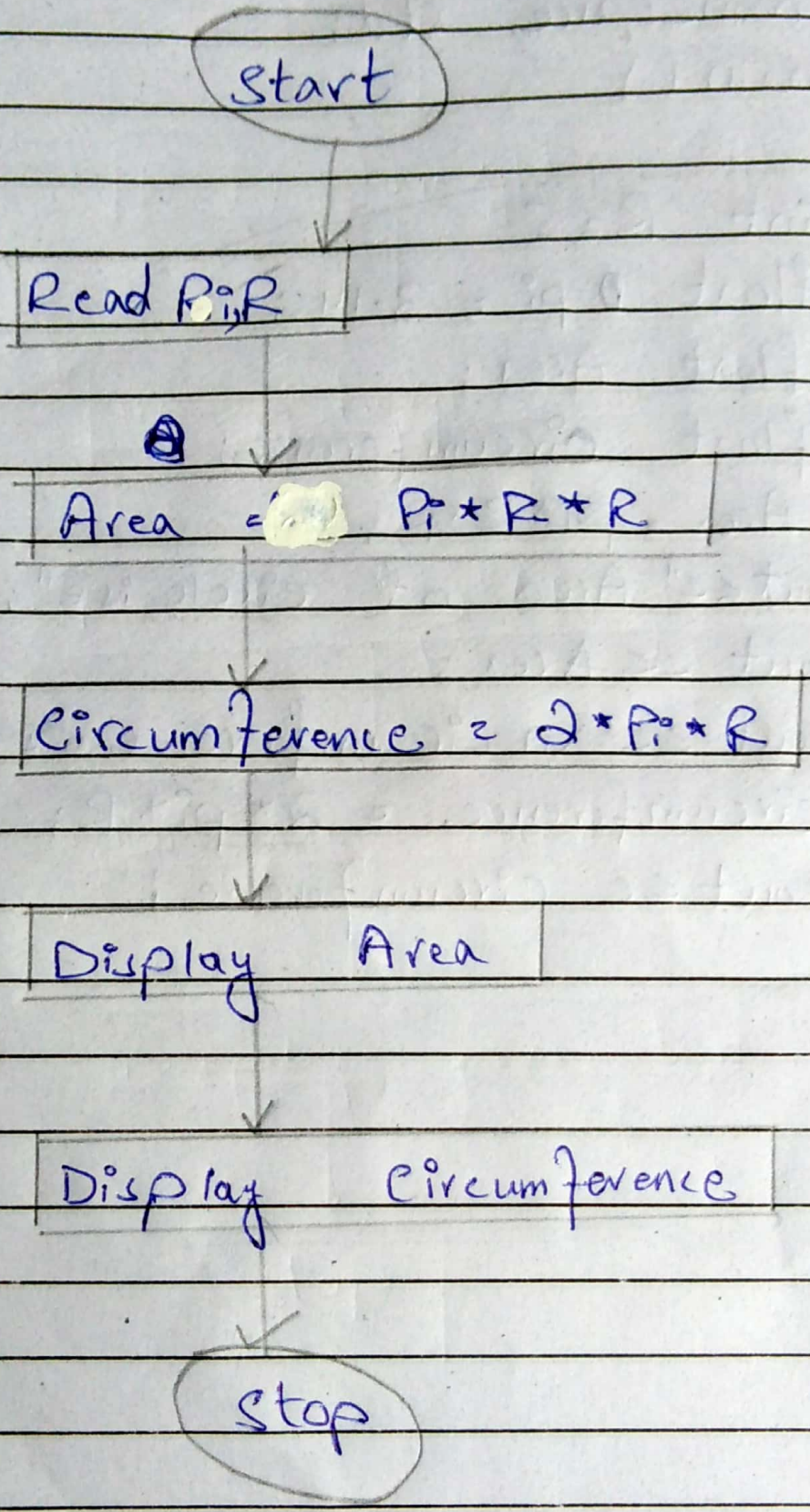
Q No 2 (b)

```
#include <iostream>
using namespace std;
int main()
{
    int R=5
    float pi = 3.14;
    float Area;
    float circumference;
    Area = pi*R*R;
  Cout<<" Area of circle is=";
  Cout << Area;
  Cout <<"\n circumference is=";
   circumference = 2*pi*R;
   cout<< circumference;

}
```

Q No 2 (b)

flow chart



Q No 3 (b)

How many translators are there to translate higher level language to machine language? Discuss.

Ans **Compiler:-**

⇒ It is a program translator that translates the instructions of a higher level language to machine language.

⇒ It is called compiler because it compiles machine language instructions for every program instructions of higher level language.

⇒ Thus compiler is a program translator like assembler but more sophisticated. It scans the entir program first and then

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translates it into machine code.

⇒ The programs written by the programmer in high level language is called source program. After this program is converted to machine languages by the compiler it is called object program.

A compiler can translate only those source programs, which have been written in that language.

INTERPRETER:

⇒ An interpreter is another type of program translator used for translating higher level language into machine language.

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It takes one statement of higher level languages, translate it into machine language and immediately evalute it.

Translation and execution are carried out for each statement.

It differs from compiler, which translate the entire source program into machine code.

The advantage of interpreter compared to compiler is its fast response to changes into source program do not require large memory in computer.

The disadvantage of interpreter is that it is time consuming method because each time a statement in a program is executed

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then it is first translated.

Thus compiled machine language program runs much faster then an intelpreted program.

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Q NO # 3 (A)

Discuss different types of programming languages.

Ans **Programming Language:-**

Programming language specially developed so that you could pass your data and instructions to the computer to do specific job.

There are two major types of programming languages,

* Low level language
* High level language.

low level languages are further divided in to machine language and Assembly language.

High level languages are, for scientific

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application FORTRN and C languages are used. On the other hand COBOL is used for business application

Machine Language:

Machine language is the only that is directly understand by the compiler. It does not need any translator program.

The only advantage is that program of machine language run very fast.

There is nothing "below" machine language — only hardware.

Impossible for humans to read. Consists of only 0's and 1's
000 100 111111 0000

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In the earliest days of computers, the only programming languages available were machine language. Each computer had its own machine language, which was made of streams of 0s and 1s.

Assembly Language:-

The next evolution in programming came with the idea of replacing binary code for instructions and addresses with symbolic. Because they used symbols, these languages were first known as symbolic language.

It is the first step to improve the program structure, you should know that computer.

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can handle numbers and letter.

The set to improve the progarmming structure you known that computer can handle numbers and letter.

This translator Program used for Assembly language is called Assmbler.

Assembly is a machine specific language.

Although Assembly and machine language might look similar that are in fact two different types of languages.

Assmebly language consis of both binary and simple words.

machine code composed only of 0's and 1's.

High language

Although assembly languages greatly improved programming efficiency, they still required programmers to concentrate on hardware they were using.

Assembly and machine level languages require deep knowledge of computer hardware where as in higher language you have to know only the instruction in English words and logic of the program.

Higher level language are simple language that use English and

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mathematical Symbols like +, -, %, /, etc. for its program construction.

Any highe level Languag has to be convertd to machine Languag for the computer to understand.

Advantages of High level Langudge:-

Higher level language have a major advantage over machine and assembly Language level language that higher level language are easy to learn and used by us in our day to day life.