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section B

Paper Programming
Fundamentals.

①

Question # 1

(9)

Answer = -

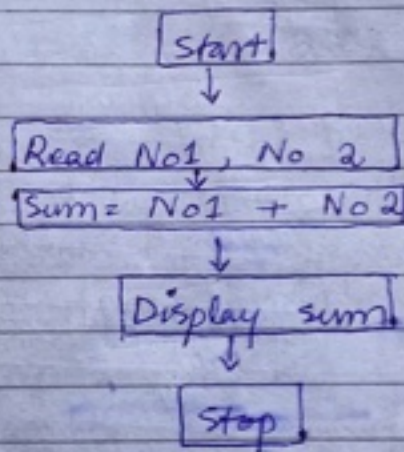
Sum of two numbers.

Input = No 1, No 2 -

Process = Add no 1 & 2.

Output = Display sum.

Flow chart =



Difference of two numbers = -

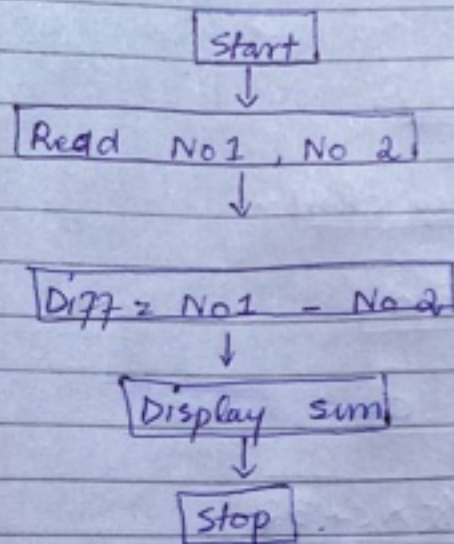
Input = No 1, No 2

Process = Subtract No1 and 2

Output = Display Difference -

(2)

Flow chart :-



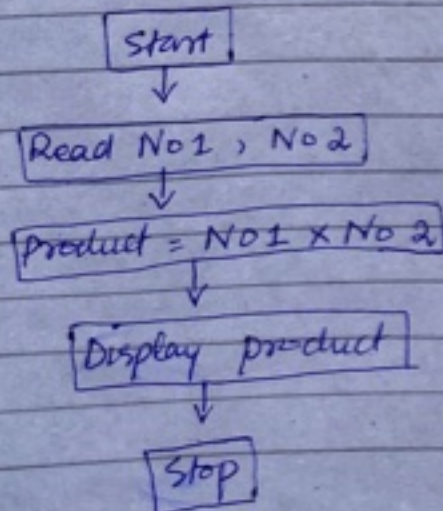
Product of two numbers :-

Input = No 1, No 2

Process = Multiply No 1 & 2

Output = Display Product

Flow chart :-



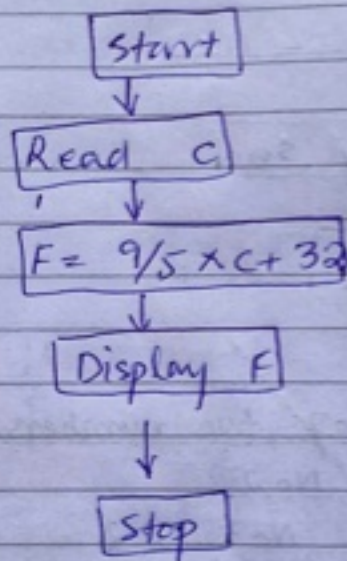
(B)

Question #1

(b)

Answer :-

Flow chart :-



(4)

Question # 2

(9)

Answer-

```
#include <iostream>
using namespace std;
int main()
{
    int width, height, area, perimeter;
    cout << "\n\n Find area & perimeter
            of Rectangle:\n";
    cout << "Input the Height of
            Rectangle:";
    cin >> height;

    cout << "Input the width of
            Rectangle:";
    cin >> width;

    area = (height * width);
    Perimeter = 2 * (height + width);

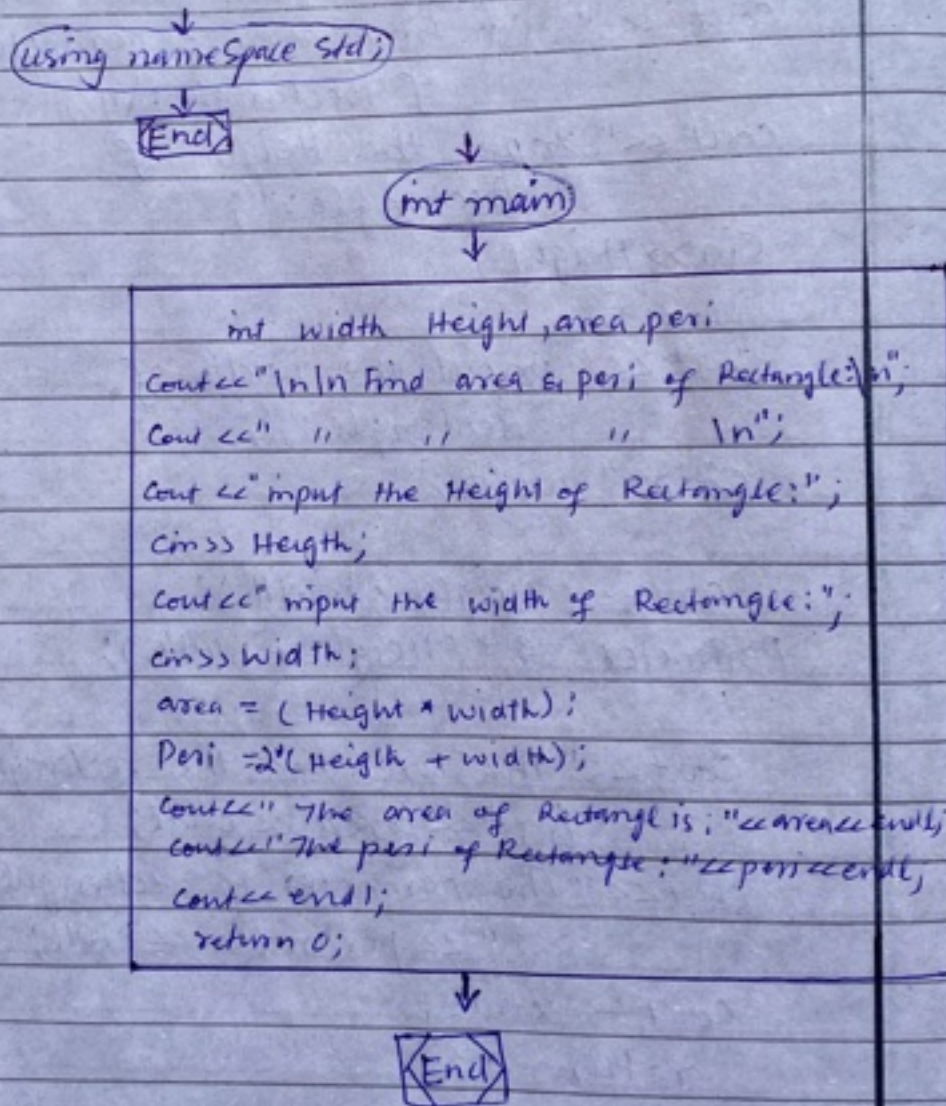
    cout << "The area of the rectangular
            is:" << area << endl;
    cout << "The perimeter of rectangular
            is:" << perimeter << endl;
    cout << endl;
    return 0;
}
```

(5)

output :-

- Height of Rectangle = 10
- Width of Rectangle = 15
- The area of Rectangle = 150
- The perimeter of Rectangle = 50.

Flow chart :-



(6)

Question # 2

(b)

Answer:-

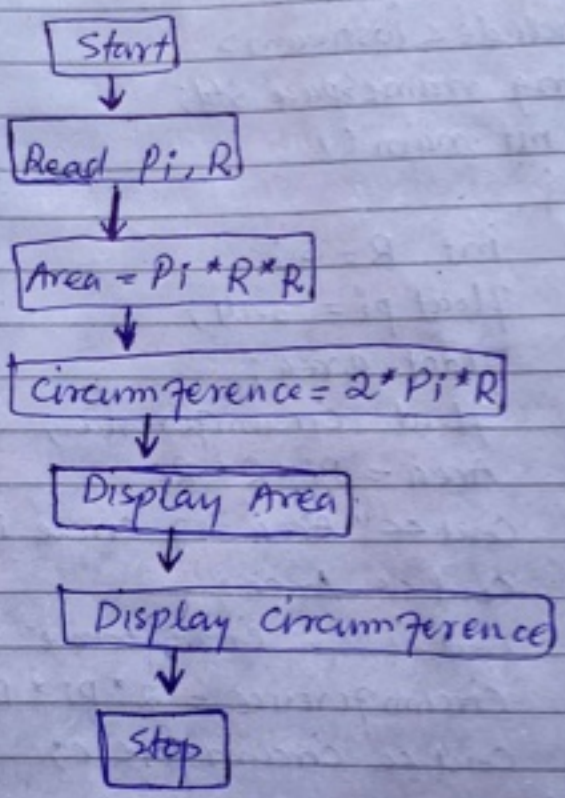
```
#include <iostream>
using namespace std;
int main()
{
    int R = 5;
    float pi = 3.14;
    float area;
    float circumference;
    Area = pi * R * R;
    cout << "Area of circle is = ";
    cout << Area;
    cout << "\n Circumference is = ";
    Circumference = 2 * pi * R;
    cout << circumference;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

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Question 2

(b)

Flow chart =



8

Question # 3

(a)

Answer:-

Types of programming languages-

There are two major types of programming languages.

1. Low level language:-
- (2) High level language:-

→ Low level languages are further divided into machine & Assembly languages.

Machine language:-

- Machine language is the only language that is directly understood by computer. It does not need any translator.
- The advantages of machine language is it runs very fast.
- There is nothing "below" machine language - only hardware.
- It consists of 0's & 1's.
Humans not understand that language.

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Assembly Language-

- The next evolution in programming that is directly not understood by computer.
- It is the first step to improve the programming structure you should know that computer can handle number and letter.
- A translator is required to translate Assembly language to machine language.
- This translator program used for Assembly language is also called Assembler.

High level languages-

- High level languages are for scientific application FORTRAN and C languages are used. On the other hand COBOL is used for business applications.
- Assembly and machine languages are deep required for computer hardware. In high language you have to know only instructions in English words and logical of problem.
- Higher level languages are simple that use english and Mathematical symbols like +, -, *, / etc.

(10)

Question # 3

(b)

Answer:

There are two types of translators.

Compiler:

- It is a program translator that translates the instruction of a higher level language to machine language.
- It is called compiler because it compiles machine language instruction for every program instructions of high level language.
- 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 program which have been written in that language.

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Interpreter:-

- An interpreter is another type of program translator used for translating higher language into machine language.
- It takes one statement of higher level languages translates it into machine languages and immediately execute it.
- It differs from compiler which translates the entire source into machine.
- Translation and execution are carried out for each statement.
- A compiler can translate only those source programs which have been written in that language.
- Thus compiled machine language runs much faster than interpreter program.

