Assignment : 1

1 Distinguish between the following pairs.

(i) main( ) and void main (void)

	main( )	void main(void)
1	The main is special function of C system	void is forwad declaration of main.
2	main is entry point of the program.	The first void indicates function does not have any return value.
3	The empty pair of the main indicates that the function has no arrgument.	The second void indicates that function has not arrgument

(ii) int main() and void main()

	int main()	void main()
1	The int is forwad declaration of € main. system.	The void is forwad declaration of main.
2	int means that function has any intiger value of the operating system.	void means that function has any informaction of the operating system.
3	When we use int in program then we must write last statment of the program 'return0'.	void indicates that function does not have any parameters.

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Q2 Give difference between compile and interpreter.

	Compile	interpreter
1	Compiler is a type of software system.	interpreter is a type of software system.
2	Compiler works fast.	interpreter works slow than compiler.
3	Compiler required more memory.	interpreter required less memory.
4	It scan program at a one time.	It scan program line by line.
5	Compiler show all the error at a time	interpreter show error line by line.
6	Compiler use in C and C++ programing system.	interpreter use in python, PHP programing system.

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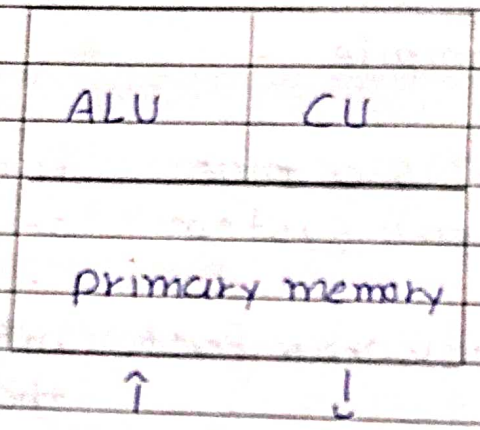
3 Draw block diagram computer system and explain it.



This are the Components of Computer.

1 Input Devies : The user provides the set of informaction to the computer system with use of input devies.

Input Devies is a conecetion between user and Computer system.

User input the informaction with use of keyboard, scaner and mouse.

2 ALU - ALU is a one of the part of CPU.

ALU full form is Arithmetic and logical unit.

ALU control all the Arithmetic operaction in Computer system.

3 CU - CU is a second of the part of CPU.

CU full form is control unit.

CU control all the operacation which performed by the Computer system.

Control unit convert all the informaction to the control signal.

4 primary memory : RAM is a primary memory of the Computer system.

RAM full form is Random Access Memory.

RAM is very fast memory. RAM store all the operacation and Application in Computer system.

5 Secondary Memory : Secondary memory is very slow.

We can store all the data in Secondary memory.

Secondary memory is not conneted to processer directly.

Secondary memory is very largest memory.

6 Output Devies :

Output Devies is connection between Computer system and user.

Output Devies show the result of input.

Moniter, printer this are the Output Devies.

4 Give difference between software and hardware.

	Software	Hardware
1	Software is a set of informacation to the computer system.	Hardware is physical Devies of the computer.
2	Software is developed.	Hardware is manufacture
3	Software is effected by computer virus.	Hardware is not effected ~~by not~~ by Computer Virus.
4	Software can be not executed without hardware.	Hardware can not perform any task without software.
5	We can not touch software and can not see the software.	We can see and touch the hardware.
6	Ms world, Exel etc. are software.	Computer, mouse etc. are hardware.

5 What is machine or low level, high level language?

1 Machine level language :

Machine level language is only understand by computer system.

Machine level language is machine dependent language.

User can not understand this language

In machine level language program are written only 0 and 1.

Machine level language is no need any type of transletter

In this language program ~~are~~ execution is very faster.

2 High level language :

High level language is user friendly language.

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High level language need transletter.

It need to be translet machine level language.

It is requried less memory and esay to maintain language.

It is requries less time to writting.

It is poartable language.

6 What is algorithm, list types of algorithm and explain it.

-> Algorithm : An Algorithm is a finite sequence of intructions.

Algorithm is step by step intructions of program to the beginning.

Algorithm gives logical path to how slove problems.

-> Types of Algorithm: 1) Divide and conq
2) Greedy method
3) Branch and bound
4) Recursion.

1 Divide and Conquer:

This technique is used to solve complex problem easily.

Complex problemes are decomposed into serveral step which make problem easy to solve.

2 Greedy method:

This method is used to solve optimization problem with serveral possible solution.

We can selet one best solution is selected with help of this method.

3 Branch and Bound

When there are several statement or certain part of logic repeated

this type of consept is used.

A Branch and Bound algorithm computer a number at a node to determine whether the node is promising.

4 Recursion :

When procedure call itself is called recursion.

7 What is Flow chart and explain it.

The flow chart is a diagram which presents the flow of data in program.

Flow chart can be used for representing an Algorithm.

A Flow chart will describe the operations are requried to solve a given program.

Flow chart has 6 basic Symbols.

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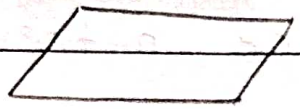
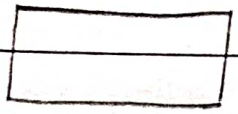
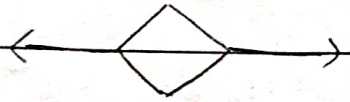
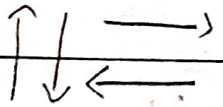
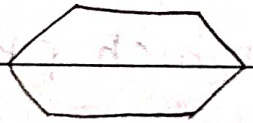
1  start / End program

2  Input / Output Operaction

3  Exprasion

4  Condition statement

5  Flow of data

6  Looping statement connector.

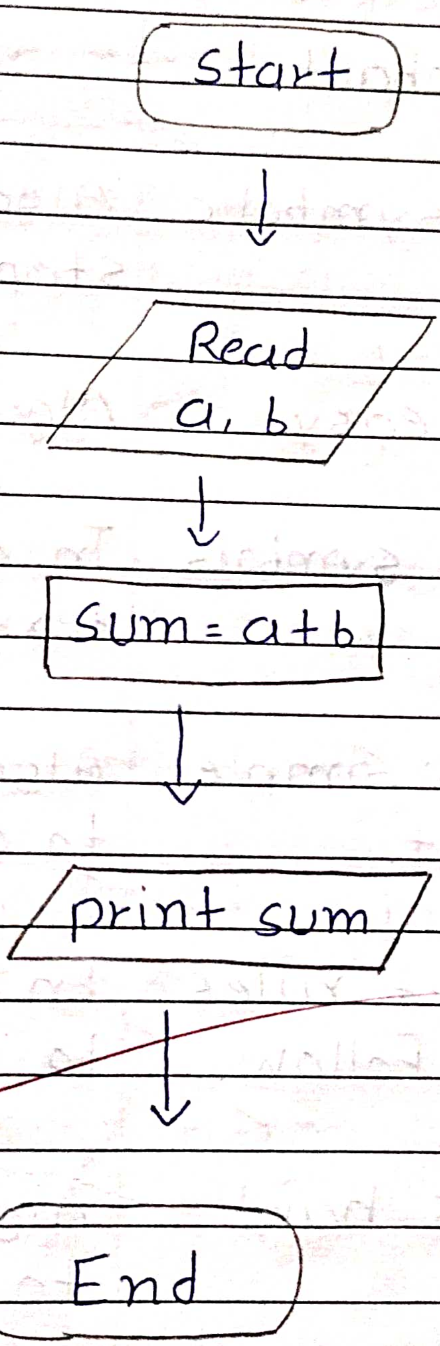
In Flow chart all the boxes are connected with arrows.

Flow chart will Flow From top to bottom

All Flow chart start with a Terminal.

The use of standards symbols make Flow chart easier.

Example: Flow chart of Addition number



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8 Give difference between Flow chart and Algorithm.

	Flow chart	Algorithm
1.	Flow chart is symbolic represention.	Algorithm is step by step solve problems.
2	Flow chart is easy.	Algorithm is complex.
3	In Flow chart symbols are use.	In Algorithm plain text are use.
4	Flow chart is simple to construct.	Algorithm is difficult to construct.
5	In Flow chart rules to be ~~flow~~. Follow.	In Algorithm rules to be not Follow.
6	Flow chart is hard to debug.	Algorithm is easy to debug.

9.

9. Explain the structure of 'C' program.

A structure is a collection of related data items and also called records.

A structure type in C is called struct.

A structure type is usually defined at the beginning of a program.

Structure of C program

Header	#include <stdio.h>
main()	int main() {
Variable declaration	int a = 10;
Body	printf("%d", a);
Return	return 0; }

- Header Files: The First component is the header files in a C program.

A Header File is a file with extension .h

Ex. stdio.h → Define Core input / output function.

- Main declaration:

The next part of a C program is to main declaration.

Ex. Void main(), int main(.)

- Variable declaration: The next part of a C program is to variable declaration.

No variable can be use without declarati

Ex. int main()
{
int a;

- Body : In body function refers to the operations that are performed in the functions.

Ex. int main()
{ int a;
printf("%d", a);

- Return : The last part of C program is the Return statement.

If the return type is void then will be no return statement.

If the return type is int then will be return 0 is return statement.

Ex. int main()
{ int a;
printf("%d", a);
return 0;
}

10. What is the Keyword and Indentifier?

- Keyword :

Keyword have fixed meanings and these meanings can not be changed.

Keyword serve as basic building blocks for program statements.

Keyword are always starts with lowercase letter.

A keyword contain only Alphabetical characters.

They help to indentify a specific propert that exist with program.

Ex. int, char, while, if etc.

- Indentifier :

Indentifier refer to the names of variables and functions.

Identifiers are user defined name.

First character can be a uppercase, lowercase letter.

An identifier can consist of alphabetical characters and digits.

In identifiers cannot use a keyword.

Ex. Test, Count etc.

11 List and explain the fundamental data types of 'C' language.

Or

12 What is data types and describe fundamental data type with purpose, size and range of values.

Fundamental data type is also called primitive data type. These are the basic data types

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Each variable in C has an associated data type.

Each data type requries different amounts and memory and Range.

Each data type has some specific operations which can be performed by it.

- list of Fundamental data types.

1 Integar
2 Character
3 Boolean
4 Floating point
5 Double Floating point
6 Valueless.

This are the fundamental data types

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Fundamental Data type	Key word	Purpose	Range	Size
Integar data type	int	Variable is use to store in an integar	-2147483648 to 2147483647	4 bytes
Character data type	Char	To store value in character and letter	-128 to 127	1 bytes
Valueless data type	void	indicates the fuction does't have return value	-	4 bytes
Boolean	~~bool~~	variable can store in true or False	-	1 byte
Floating point	Float	Store single value to Floating point value	-38 to 38	4 byte
Double Floating Point	double	store double value to Floating point value	-308 to 308	8 byte

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13. What is operators, list of the operator and explain increment and decrement Operators.

Operator are the Foundation of a C programming language.

Operators as symbols that help us t perform specific operaction.

Ex. C = a + b;

Here, '+' is a mathematical operato

Operator known as the addition of th a and & b value.

- list of Operators

1 Arithmetic operators

Ex. +, -, *, /, %.

2 Relational operators

Ex. <, <=, >, >=, ==

3 Logical Operators
Ex. &&, ||, !

4 Bitwise Operators
Ex. &, |, <<, >>, ^

5 Assignment Operators
Ex. +=, -=, *=, /=, %=

6 Conditional Operators
Ex. ? :

- increment Operator:

The increment operator is used to increment the value of a variable.

Increment Operator adds 1 to the operand.

We use this increment in decision making and looping statement.

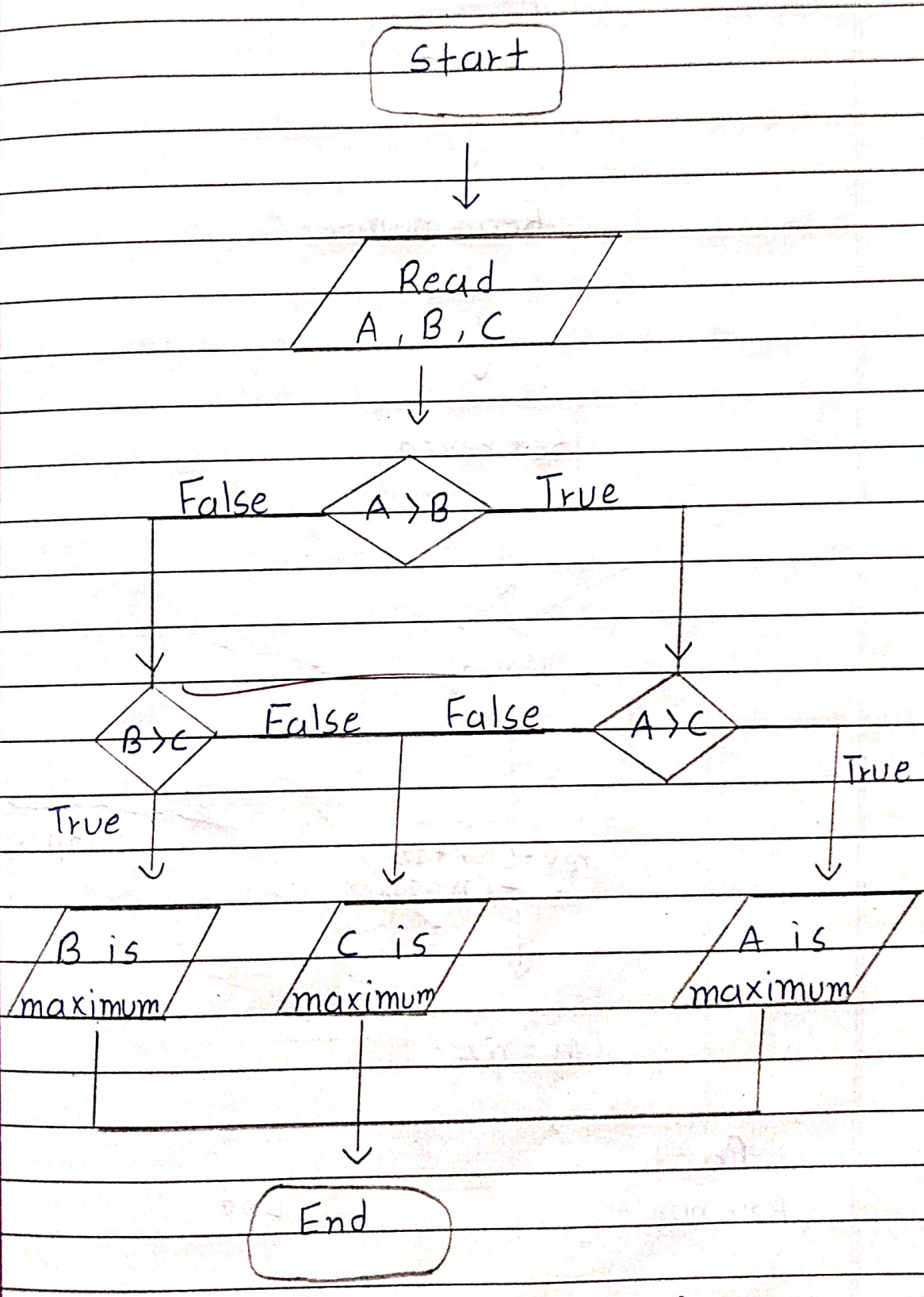
- Decrement Operators:

The decrement operator is used to decrement the value of a variable.

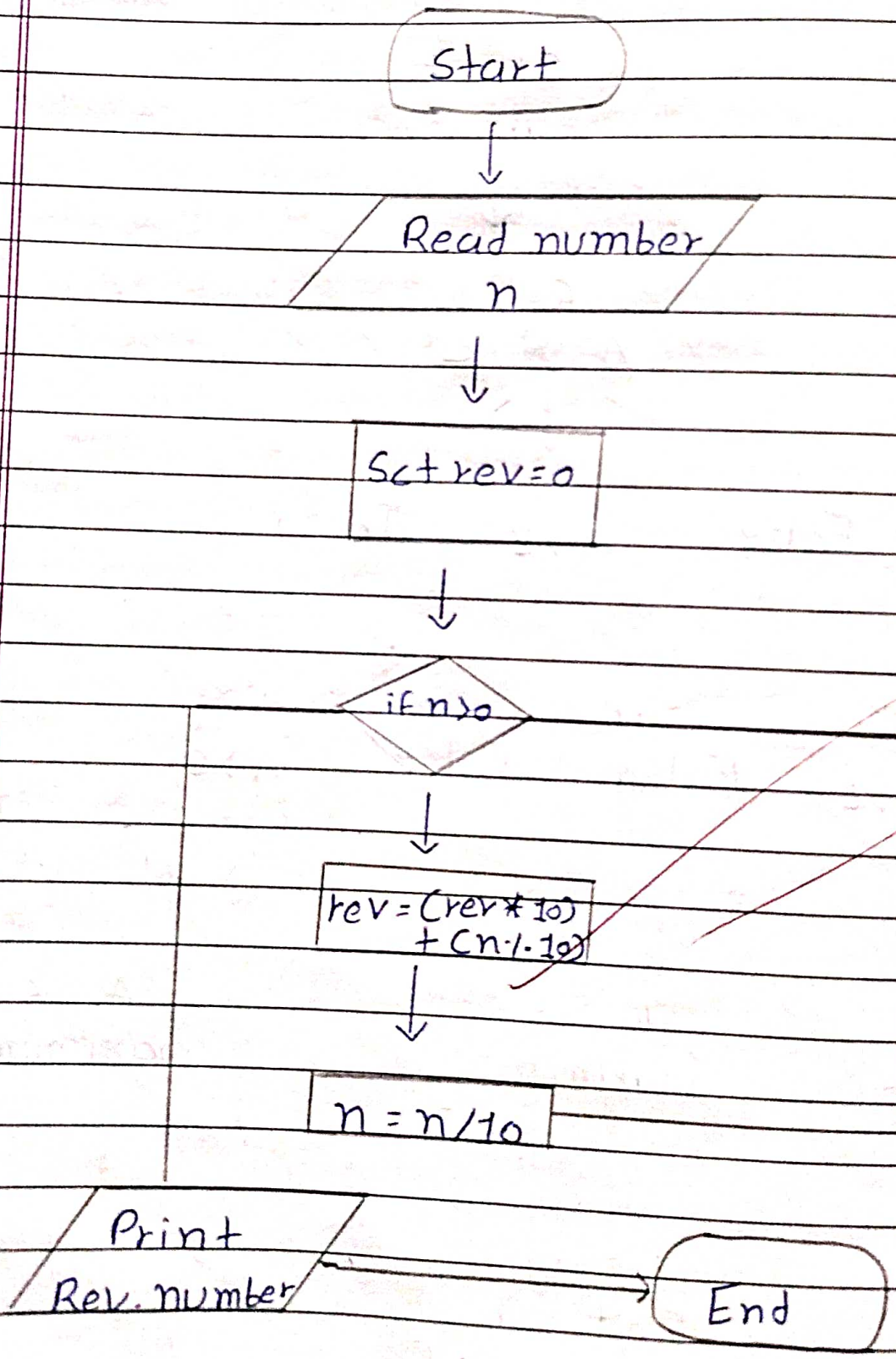
Decrement Operator subtracts 1 from the operand.

We use decrement operator in decision making and looping statement.

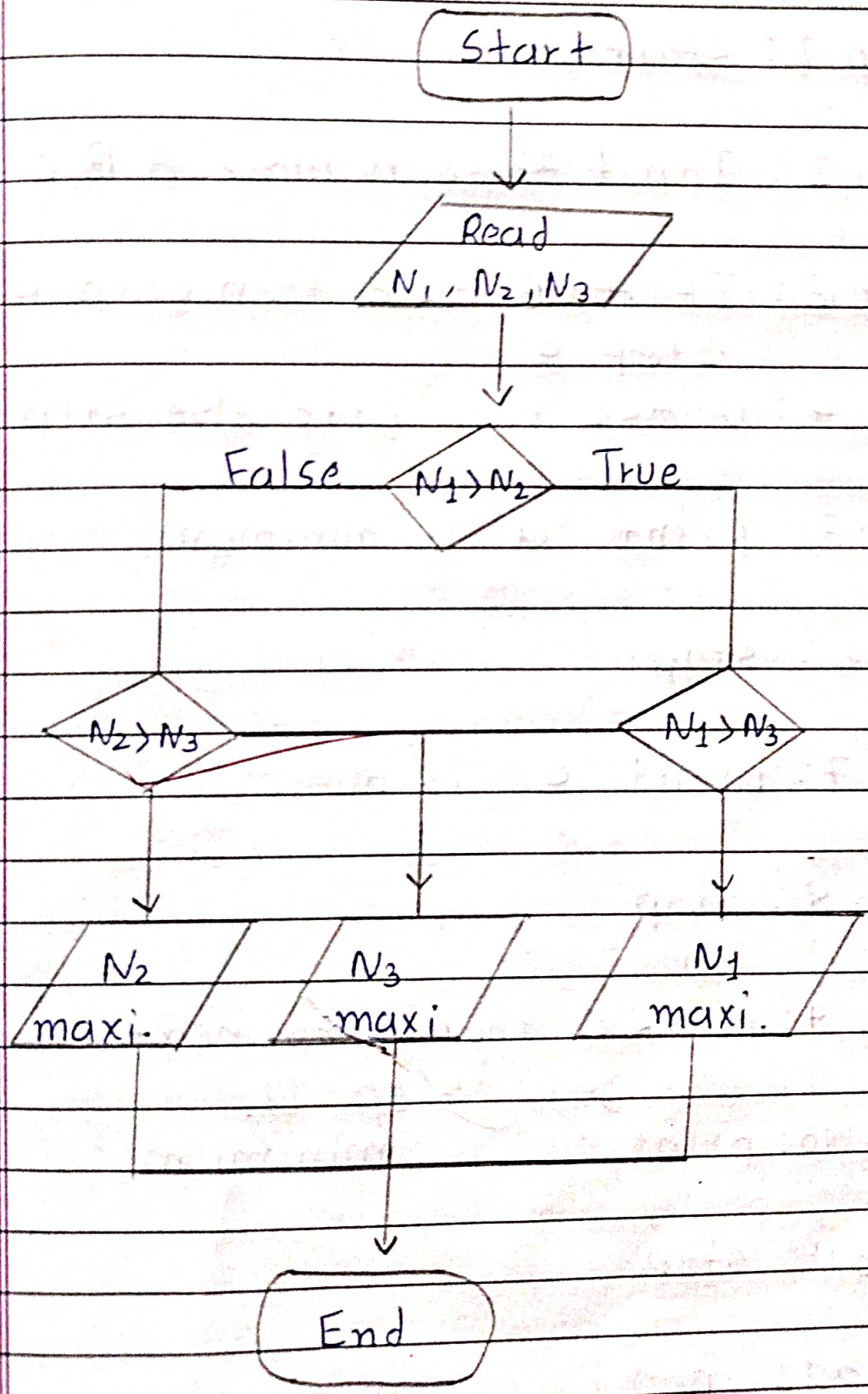
14. Draw a flow chart to find maximum number from three number.



15 Draw a Flow chart to Reverse given number.



16 Draw a flow chart to Find maximum number form N different number.



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17 Write an algorithm to find out minimum number form three input number.

step 1 : start

step 2 : Input three number A, B, C

step 3 : If ~~A → B~~ A < B then goto ~~spe~~ step 9

step 4 : if A<C then goto else step 7

step 5 : print 'a' is minimum.

step 6 : stop.

step 7 : print 'c' is minimum.

step 8 : stop

step 9 : if b<C then goto next step
else goto step 12.

step 10 : print 'b' is minimum.

step 11 : stop.

step 12 : print 'c' minimum

Step 13 : stop.

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18 Write an algorithm to find Factorial of given number.

step 1 : start

step 2 : Enter number n

step 3 : f = 1, i

step 4 : i = 1, i <= n, i++

step 5 : F = f * i

step 6 : Factorial of number

step 7 : stop

19 Write an Algorithm to find given number is Armstrong or not.

step 1 : start

step 2 : Enter the number n

step 3 : Sum = 0 ;
C = n

step 4 : while (n > 0)

step 5 : r = n % 10
Sum = Sum + (r * r * r)
n = n / 10

step 6 : If (sum = c)

step 7 : print Armstrong

step 7 : else print not Armstrong

step 8 : stop

20 Write an Algorithm to Find given number is prime or not.

step 1 : start

step 2 : Enter the number n.

step 3 : F = 0

step 4 : For i = 2 to n-1

step 5 : If n > 0

step 6 : F = 1 and break

step 7 : Loop

step 8 : If F = 0 then print prime number.

step 9 : else then print not prime number

step 10 : Stop.

Pruthvi
03/01/22