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UNIT No.

The 'C' PREPROCESSOR & BITWISE OPERATOR

C has a Special feature of Pre Processor which make it different from other High level Language. The advantage of Pre Processor is —

1. Increase the Read ability of the Program.
2. Program modification become Easy.
3. Make the Program portable.
4. Make the program effeicient.

A Code is converted into Object Code using the Compiler but before being Compile the Source Code passes through the 'C' – Pre Processor. The Pre-Processor is can the whole Source Code & Expend it which is then given to Compiler for Compilation.

The Line Starting the Symbol # is called Pre-Processor Directive & when the Pre-processor find A-Line Starting with Symbol # is consider it is a Command for it Self and work according them. All the directives are executed by the PreProcessor and compiler does not Receive any line Starting with Symbol #.

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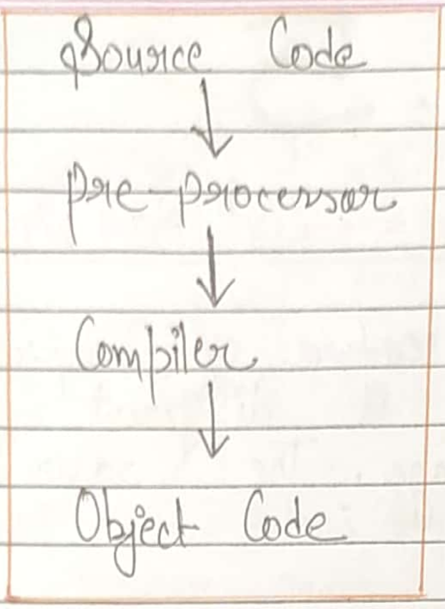

Some Feature of Pre Processor Directive :-

1. Each Pre Processor Directive Start with a Symbal #.

2. There can be only One directive on a line.

3. There are No Semi Colon at the End of pre-processor directive.

4. A directive is Active from the Starting of the line and Run in the Entire program.

include <Stdio. h>

Some function of pre processor directive :-

1. Simple micro Subtitution
2. Micro with Argument
3. Conditional Compilation

4. including files.

They are Three operator use with this Directive -

1. defined ( )
2. # String Operator
3. Token Passing operator ##

File inclusion Directive :— The Pre processor directive #include is used to include A file into a Source Code, by using " ". , double code or angle bracket " "

```
#include <Stdio.h>
# include " Stdio.h"
```

1). # include < file .h > :— Here if the file is with in angel bracket then file is Search in Standard Library Only

2). # include " File.h" :— If the file name is in double cot then first it is Search in Current directory, if it is not found Current directory

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Conditional Compilation :- There may be Some Situation where

We want to compile Some part of Code (Program) based on Some Condition. Which is done by Conditional Compilation. Conditional Compilation means compilation a part of Code Based on Some Condition and these Condition are Check during pre processing fixed.

Example :-

```
# if
# el if
```

①

```
# if Constant expres          (Syntax)
 -
 -
 -
 -
# end if
```

```
# if a= = 1                   (Examble)
Printf ("Hello");
# end if
```

②.

```
# el if Constant expression   (Syntax)
 ;
# end if
```

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if Constant expression (Example)

-

-

elif Contant expression

elif Constant expression

⋮

end if

defined ( ) Operator :-

Syntax :- define (macro name)

This Operator is Used with # if and it Return to 1 if macro name has be define using # define (true).

Macro Subtitution Directive :-

Macro Subtitution directive is Used to Replace A Value in the place of Macro and its Syntax is
# define space macroname space micro expansion

the preprocessor Replace all the macro name with macro expansion. The micro name will be always in Capital letter.

Example,
# define _TRUE_ 5

PROGRAM

```
#define _ ABHI _ hello

# include <Stdio.h>
# include <Conio.h>
  Void main ()
  {
  Printf ("ABHI");
  getch();
  }
```