UNIT-II INTRODUCTION TO C PROGRAMMING

SHORT ANSWER QUESTIONS

1. Draw the structure of C program
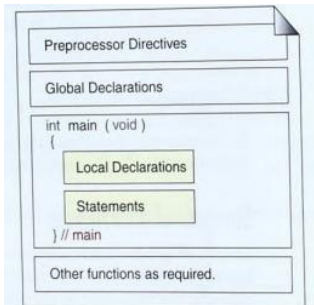
2. Explain the importance of Comments

Although it is reasonable to expect that a good programmer should be able to read code, sometimes the meaning of a section of code is not entirely clear. "This is especially true in C. Thus, it is helpful if the person who writes the code places some comments in the code to help the reader. Such comments are merely internal program documentation. The compiler ignores these comments when it translates the program into executable code. To identify a comment, C uses two different formats**: block comments and line comments**

3. What are block and line comments

Block Comment

A block comment is used when the comment will span several lines. The opening token is /* and the closing token is */.

Example:

/* This is a block comment that covers
 two lines. */

Line Comment

The second format, the line comment, uses two slashes (//) to identify comment. This format does not require an end-of-comment token; the end of the line automatically ends the comment.

Example:

// This is a whole line comment

4. Define a keyword

Keywords, also known as reserved words, that cannot be used as identifiers for functions, variables, or named constants. All the keywords have fixed meanings and these meanings cannot be changed. These serve as basic building blocks for program statement.

5. Define Identifiers

Identifiers allow us to name data and other objects in the program. Each identified object in the computer is stored at a unique address. If we didn't have identifiers that we could use to symbolically represent data

locations, we would have to know and use object's addresses. Instead, we simply give data identifiers and let the compiler keep track of where they are physically located.

6. **Write the rules for identifiers**
   Rules for identifiers.
   1. An identifier must start with a letter or underscore: it may not have a space or a hyphen.
   2. Must consist only of alphabetic characters, digits, or underscores.
   3. First 63 characters of an identifier are significant.
   4. Cannot duplicate a keyword.

7. **Define variables.**
   Variables are named memory locations that have character, which is inherited from that a variable may contain the a type, such as integer or their type. The type determines the values operations that may he used with its values.

8. **Give variable declaration and initialization**
   Variable Declaration
   Each variable in your program must be declared and defined. In C, a declaration is used to name an object, such as a variable. Definitions are used to create the object. With one exception, a variable is declared and defined at the same time. The exception, which we will see later, declares them first and then defines them at a later time.
   Example: int count;
   Variable initialization
   We can initialize a variable at the same time that we declare it hv including an initializer. When present, the initializer establishes the first value that the variable will contain. To initialize a variable when it is defined, the identifier is followed by the assignment operator4 and then the initializer, which is the value the variable is to have when the function starts.
   Example: int count = 0 ;

9. **List different constants**
   1. Boolean
   2. Character
   3. Integer
   4. Real
   5. Complex
   6. String

10. **Define binary stream**
    A binary stream consists of a sequence of data values such as integer, real, or complex using their memory representation.

11. **Define text stream**
    A text stream consists of a sequence of characters divided into lines with each line terminated by a newline (\n). A terminal keyboard and monitor can be associated only with a text stream. A keyboard is a source for a text stream; a monitor is a destination for a text.

12. Write a short note on type conversion

Implicit Type Conversion : When the types of the two operands in a binary expression are different, C automatically converts one type to another. This is known as implicit type conversion.

Explicit type conversion : We can convert data from one type to another ourself using explicit type conversion. Explicit type conversion uses the unary cast operator.

13. What is a break statement?

In a loop, the break statement causes a loop to terminate. It is the same as setting the loop's limit test to false. If we are in a series of nested loops, break terminates only the inner loop—the one we are currently in.

14. What is a continue statement?

The continue statement does not terminate the loop but simply transfers to the testing expression in while and do...while statements and transfers to the updating expression in a for statement.

15. What is a goto statement?

During running of a program when a statement like goto begin; is met, the flow of control will jump to the statement immediately following the label begin This happens unconditionally.

LONG ANSWER QUESTIONS

1. Write a program in C to display a pattern like a diamond

```
        *
       ***
      *****
     *******
    *********
     *******
      *****
       ***
        *
```

2. Write a C program to convert a decimal number to hexadecimal
3. What are conditional branch statements in C ? Explain
4. Explain about various data types used in C with examples.
5. Explain about various looping statements with example programs.
6. Describe the Operators used in C with examples