Subject: Computer Science
Chapter – IV

Data types and operators

Class: 10

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A. Fill in the blanks:

1. Expression
2. Variable
3. Postfix decrement
4. Syntax
5. two
6. True
7. Ternary operator
8. Float
9. 15

B. State True or False:

1. True
2. False
3. False
4. False
5. True
6. False
7. True

C. Multiple Choice Questions:

1. (c) Operators
2. (a) Data type
3. (a) 2 or 4
4. (b) Assignment
5. (a) Unary
6. (b) Arithmetic
7. (a) %
8. (a) Relational
9. (a) &&
10. (a) String

D. Answer in one word or sentence:

1. 8 bytes
2. 6 decimal places

3. Six

4. False

5. 6

6. False

7. 1 byte

E. Answer the following:

1. What do you mean by data type?

Data types are defined as the data storage format that a variable can store to perform a specific operation. The size of a variable and constant are determined by data types.

2. What are the basic data types available in C?

The basic data types available in C are int, float, char and double.

3. How do we declare and initialize variable in C?

Declaration of a variable consists of data type, variable name and initial value of the variable.
Syntax of declaration of a variable:

Data type   Variable name = Initial value;

Example

Int a=10.

"Int" is the data type.

"a" is the variable   .

"10" is the initial value.

4. What is the difference between float and double type data?

Description	Float	Double
Storage Size	4 bytes	8 bytes
Precision	6 decimal places	15 decimal places

5. What are operators and why do we need them?

Operators are special symbols that perform specific operations on one, two or more operands, and give meaningful result. The operators are used to perform arithmetic and logical operations.

6. What is an expression?

An expression is a valid combination of both operands and operators, which returns computed result.

7. What are ternary operators?

Conditional operators are also called the ternary operator as it works on three operands. The syntax form is

Expression1? Expression2: Expression3

If expression1 is true, then expression 2 will be returned, else expression 3 will be returned.

8. Differentiate between prefix and postfix operators.

Prefix operator	Postfix operator

First this operator increases the value of the variable by one and then assign the incremented value to a variable.
Ex.   a = 10
    b = ++a
	First, the actual value of the variable is assigned to another variable, and then the value of the first variable is increased by one.
	Ex. a = 10
	    b = a++

| b=11, a=11 | b=10, a=11 |

9. What are relational operators? Explain briefly.

Relational operator compares two operands and determines the relationship between them. It gives result in two states either true or false.

>   Greater than

<   Less than

>=   Greater than or equal to

<=   Less than or equal to

==   Equal to

!=   Not equal to

10. What are logical operators?

Logical operators are used for logical operations, which compare the result of relational expressions and give result in the form of true or false. Logical operators are used as both binary and unary operators. C provides three logical operators,

&&   AND

|| OR

!   NOT