C PROGRAMMING

SPARKZTECH

OPERATORS

- An operator is a symbol that tells the compiler to perform specific mathematical or logical functions.
- **C language is rich in built-in operators and provides the following types of operators:-**
- Arithmetic Operators
- Relational Operators
- Logical Operators
- Bitwise Operators
- Assignment Operators
- Special Operators

- **Arithmetic Operators :-**

Operator	Name	Description	Example
+	Addition	Adds together two values	x + y
-	Subtraction	Subtracts one value from another	x - y
*	Multiplication	Multiplies two values	x * y
/	Division	Divides one value by another	x / y
%	Modulus	Returns the division remainder	x % y
++	Increment	Increases the value of a variable by 1	++x
--	Decrement	Decreases the value of a variable by 1	--x

- **Logical Operators :-**

Operator	Name	Description	Example
&&	logical AND	It returns true when both conditions are true	(x>5)&&(y<5)
||	logical OR	It returns true when at-least one of the condition is true	(x>=10)||(y>=10)
!	logical NOT	It reverses the state of the operand "((x>5) && (y<5))" If "((x>5) && (y<5))" is true, logical NOT operator makes it false	!((x>5)&&(y<5))

- **Relational Operator :-**

Operator	Name	Example
==	Equal to	5 == 3 is evaluated to 0
<	Lesser than	5 < 3 is evaluated to 0
>	Greater than	5 > 3 is evaluated to 1
<=	Lesser than equal to	5 <= 3 is evaluated to 0
>=	Greater than equal to	5 >= 3 is evaluated to 1
!=	Not Equal to	5 != 3 is evaluated to 1

- **Bitwise Operator :-**

Operator	Meaning Of Operators
&	Bitwise AND
|	Bitwise OR
^	Bitwise exclusive OR
~	Bitwise complement
<<	Shift left
>>	Shift right

- **Assignment Operators :-**

Operator	Example	Explanation
=	X=25	Value 25 is assigned to x
+=	X+=25	This is same as x = x + 25
-=	X-=25	This is same as x = x – 25
*=	X*=25	This is same as x = x * 25
%=	X%=25	This is same as x = x % 25
/=	X/=25	This is same as x = x / 25

- **Special Operators :-**

Operator	Example
&	This is used to get the address of the variable. Example : &a will give address of a.
*	This is used as pointer to a variable. Example : * a where, * is pointer to the variable a.
Sizeof ()	This gives the size of the variable. Example : size of (char) will give us 1.

TYPECASTING

- Typecasting allows us to convert one data type into other. In C language, we use cast operator for typecasting which is denoted by (type).
- Syntax :- (type)value;
- **Type Casting example :-**

```
#include<stdio.h>

int main()

{

float f= (float)9/4;

printf("f : %f\n", f );

return 0;

}
```