

What is the bitwise operators ?

- First the bitwise is a level of operation that involves working with individual bits which are the smallest units of data in a computing system , each bit has single binary value of 0 or 1 .

The bitwise operators is :

- Bitwise Not , complement ( `~` ) : This operator inverts bits , the 0 becomes 1 and the 1 becomes 0 .
- Bitwise And ( `&` ) : This operator outputs a 1 if both operands are 1 , otherwise a 0 is the output , and it compares two numbers in their binary form bit by bit .
- Bitwise Or ( `|` ) : This operator produces a 1 if one of the two operands is also 1 .
- XOR or bitwise exclusive OR ( `^` ) : This operator outputs a 0 if both operands have the same value , otherwise it outputs a 1 .
- left shift ( `<<` ) : This operator shifts operand **a** to the left by **b** position , if this result in spaces , the spaces will be filled with 0 .
- Right shift with sign , arithmetic ( `>>` ) : This operator shifts all bits of **a** by **b** position to the right , if the bit with the highest value was set before execution it remains set afterwards . Negative numbers remain negative .
- Unsigned right shift , logical ( `>>>` ) : This operator shifts the bits of **a** to the right by **b** position . Spaces are always filled with 0 .

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