Assignment 2

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# 1. Counting ones

Program that counts the number of ‘1’s in a binary number which is converted from a decimal number entered by the user.

**Input**: Decimal number of type integer.

**Output**: Decimal number of type integer.

**Calculations**: Conversion of the user input from decimal to binary. We **divide** in a loop the input by 2 until the answer is 0. We also keep track of the **remainder** of each division. Finally, we need to concatenate the remainders in order from the last operation to the first one.

**Variables**:

|  |  |  |
| --- | --- | --- |
| **Variable** | **Description** | **Type** |
| num | Input. Decimal number. | Int |
| count | Output. Number of 1s in the binary number. | Int |
| ans | Starts equal to num, then keeps track of the division’s answers. | Int |
| rem | Represents the remainder of each division | Int |
|  |  |  |
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**Constants**: Not needed.