Problem I – IP Address

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An Internet Protocol address (IP address) is a numerical label assigned to each device connected to a computer network that uses the Internet Protocol for communication.

Internet Protocol version 4 (IPv4) defines an IP address as a 32-bit number, and are usually written and displayed in human-readable notations, consisting of four decimal numbers, each ranging from 0 to 255, separated by dots, e.g., 172.16.254.1. Each part represents a group of 8 bits (an octet) of the address. The binary representation of the IP address is the concatenation of each of the IP address octets, as an example, to obtain the binary representation of the IP Address '172.16.254.1' first we get the binary representation of each octet:

- 172 = 10101100
- 16 = 00010000
- 254 = 11111110
- 1 = 00000001

Thus the binary representation for 172.16.254.1 is 10101100000100001111111000000001

In this problem your task is to get the binary representation of a given IP Address.

Input

The input consists of a single line that contains a String representing the IP Address to convert to binary.

Output

Output a single line with a string with exactly 32 characters, representing the binary representation of the IP Address given in the input.

Sample input 1	**Sample output 1**
`172.16.254.1`	`10101100000100001111111000000001`

Sample input 2	**Sample output 2**
`0.0.0.0`	`00000000000000000000000000000000`

Sample input 3	**Sample output 3**
`255.255.255.255`	`11111111111111111111111111111111`