Validate My IP

You're part of a team developing a new networking application that needs to accept user input for IP addresses. Before the application can process the IP addresses, it must validate them to ensure they're in the correct format. Your task is to create a Python script that can differentiate between valid and invalid IP addresses.



Background

An **IP address** is a numeric identifier for a device connected to a network that uses the Internet Protocol. It consists of four numbers separated by dots (periods), where each number is called an *octet*. Each octet can range from 0 to 255. For example, 192.168.1.1 is a valid IP address.

Task

- 1. Write a Python function validate_ipv(ip) that checks if the input string is a valid IP address and returns True if it is, or False otherwise. The criteria for a valid IP address are:
 - It must have exactly four octets (four sets of numbers separated by dots).
 - Each octet must be a decimal number ranging from 0 to 255.
 - No leading zeros are allowed in any octet (e.g., 192.168.01.1 is invalid).
- 2. Test your function with the following IP addresses to determine their validity.
 - o 192.168.1.1
 - 0 256.100.50.25
 - 0 123.45.67
 - o 172.16.254.1

- 0 10.0.0.256
- 0 192.168.01.1

To submit

Submit a Python script containing your **validate_ip** function, and tests for the IP addresses specified above.



