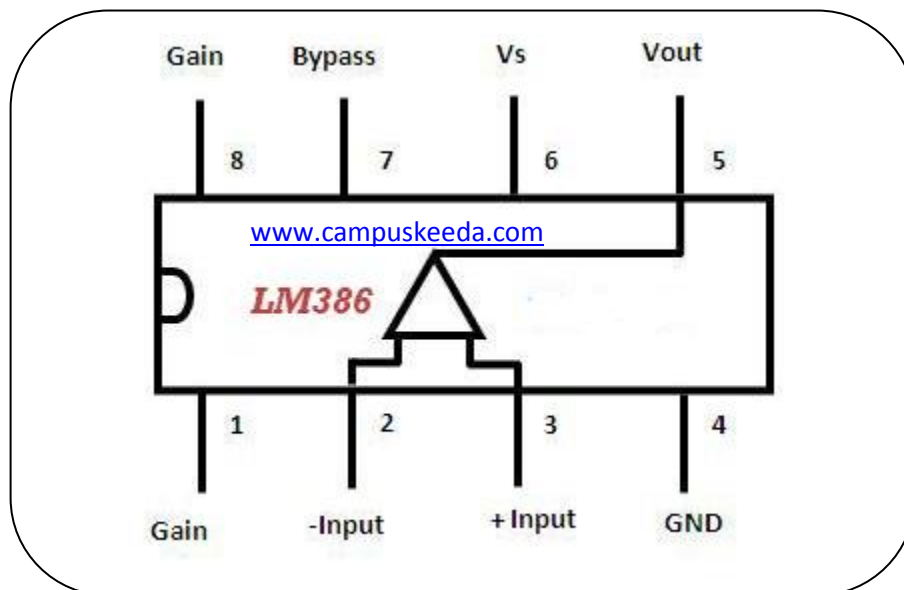


## **Audio Amplifier using Opam**

LM386 is a low power voltage amplifier IC by National Semiconductors. Specifically designed for low power applications, it provides an internal gain of 20 which can be easily shoot to 200 using a resistor. This IC has been developed for battery operations and is widely used in circuits such as intercoms, audio systems in televisions, power connectors etc.

In the circuit described is based on LM386 and amplifies sound input so that they can suffice enough for interiors of a car or a mobile phone.

To understand the working of project, one should first understand its pin description-



Pin 1 and pin 8 are used for gain control of the amplifier.

Pin 2 and pin 3 are used to feed the input signal which is required to be amplified. Pin 2 is used for negative input and pin 3 is for positive signal.

Pin 4 is used as ground.

Pin 6 is used to connect DC power supply.

Pin 5 is used as output.

Working of the circuit is very simple: first one has to adjust its gain factor through pin 1 and 8. If it is left open the gain will be 20 as it is internally set in IC but it can be vary by adding a resistor and a capacitor up to 200. Now feed the required signals to pin 2 and 3. A variable resistor is connected to pin 3 to adjust the sensitivity of input signal and output will be attained on pin5.

C6 is used as current bank for output and when demand for current becomes low, it supplies electrons. It acts as circuit protector when sudden surges of current occur. C5 act as a coupling capacitor, thus removing DC signals and passing only AC signals through it. The output is attained through a speaker.

### Circuit Diagram

