**QUESTION :**

While visiting a small town in the United States, I lost my overcoat in a bus. When I reported the matter to the bus company, I was asked the number of the bus. Though I did not remember the exact number, I did remember that the bus number had a certain peculiarity about it. The number plate showed the bus number was a perfect square and if the plate was turned upside down, the number would still be a perfect square-of course it was not? I came to know from the bus company they had only five hundred buses numbered from 1 to 500. From this I was able to deduce the bus number. Can you tell what was the bus number?

**ANSWER :**

196

**STRATEGY :**

By experiments, we find that the only numbers that can be turned upside down and still read as a number are 0,1,6,8 ad 9.

The numbers 0, and 1 and 8 remain 0, 1 and 8 when turned over, but 6 becomes 9 and 9 becomes 6. Therefore, the possible numbers on the bus were 9, 16, 81, 100, 169 or 196. However, the number 196 is the only number, which becomes a perfect square when turned over, because 961 is the perfect square of 31. Therefore, 196 is the correct answer.