Examples of s/w crisis

History has seen that delivering software after the scheduled date or with errors has caused large scale financial losses as well as inconvenience to many. Disasters such as the Y2Kproblem affected economic, political, and administrative systems of various countries around the world. This situation, where catastrophic failures have occurred, is known as **software crisis.**The major causes of software crisis are the problems associated with poor quality software such as malfunctioning of software systems, inefficient development of software, and the most important, dissatisfaction amongst the users of the software.

The software market today has a turnover of more than millions of rupees. Out of this, approximately thirty Percent of software is used for [personal computer](https://ecomputernotes.com/fundamental/introduction-to-computer/personal-computer)s and the remaining software is developed for specific users or organizations. Application areas such as the banking sector are completely dependant on software application. Software failures in these technology-oriented areas have led to considerable loss in terms of time, money, and even human lives. History has been witness to many such failures, some of which are listed below.

1. The Northeast blackout in 2003 has been one of the major power system failures in the history of North America. This blackout involved failure of 100 power plants due to which almost 50 million customers faced power loss that resulted in financia110ss of approximately $6 billion. Later, it was determined that the major reason behind the failure was a software bug in the power monitoring and management system.
2. Year 2000 (Y2K) problem refers to the widespread snags in processing dates after the year 2000. The roots ofY2K problem can be traced back to 1960-80 when developers shortened the 4-digit date format like 1972 to a 2-digit format like 72 because of limited memory. At that time they did not realize that year 2000 will be shortened to 00 which is less than 72. In the 1990s, experts began to realize this major shortcoming in the [computer](https://ecomputernotes.com/fundamental/introduction-to-computer/what-is-computer) application and then millions were spent to handle this problem.
3. In 1996, Arian-5 space rocket, developed at the cost of $7000 million over a period of 10 years was destroyed within less than a minute after its launch. The crash occurred because there was a software bug in the rocket guidance system.
4. In 1996, one of the largest banks of US credited accounts of nearly 800 customers with approximately $9241acs. Later, it was detected that the problem occurred due to a programming bug in the banking software.
5. During the Gulf War in 1991, the United States of America used Patriot missiles as a defense against Iraqi Scud missiles. However, the Patriot failed to hit the Scud many times. As a result, 28 US soldiers were killed in Dhahran, Saudi Arabia. An inquiry into the incident concluded that a small bug had resulted in the miscalculation of missile path.