ou've probably already had the unpleasant experience of a bomb, system error, or crash. What is a bomb?   It means a serious internal error has occurred within a program or INIT that was running and could not be resolved peacefully.   Unless you have a debugger (such as Apple's MacsBug) installed, or know how to use the built in debugger, these errors are usually so serious that you have to restart your machine.

Quick note: When you experience a crash or bomb, use the reset button whenever possible. This will save the contents of any RAM disks you had installed at the time of the bomb.

What Causes a Bomb?

If the program(s) you're running are frequently bombing there are generally six possible causes:

1)
The program you are running has a bug in it.   This means that some programmer somewhere has messed up and it's causing you problems.   Usually there isn't much you can do directly except to call tech support and see if there is an upgrade that solves your problem.   Sometimes there is what's called a work-around, or, another way to get the same task accomplished without that bomb dialog box showing up.

2)
The directory has become corrupted.   This means that the information that tells your computer where things are and what's happening is at least partly wrong and confusing the computer.   Many times this is easily solved by Apple's Disk First Aid (always use the newest version if possible) or other third party disk repair and recovery tools such as Norton Utilities. If these detect a problem that cannot be fixed your only option is to recover what you can to a safe source and reformat the hard drive.

3)
There is an INIT or Control Panel conflict.   INIT's (or sometimes called extensions) are represented by those little pictures that appear on your screen when you first boot your Macintosh.   An INIT works by altering the system code in RAM.   Sometimes these INITs have little fights in RAM trying to decide who should get to do what,   resulting in a bomb.   To see if it is an INIT conflict:

Under System 6.x: Take all of the INITs and Control Panels out of the system folder and reboot.   If   everything is working fine then it is most likely an INIT conflict at the root of your problems.   You now have to figure out which one it is.   Make a new folder on your desktop labeled "INITs" and copy all of them into that folder.   Now take the first half and put them into the system folder and reboot.   If your machine is all happy you know the bad INIT has to be in the "INITs" folder on your desktop, you can then continue on with your search and try to narrow it down.

Under System 7.0-7.1.x: To see if a bad extension is your problem, reboot and hold down the shift key. Under the "Welcome to Macintosh" dialog you will see, "Extensions Disabled."   If your Mac now works fine, follow the same instructions under the System 6 section to find

the bad Extension or Control Panel.

Under System 7.5.x: System 7.5 comes with an Extensions Manager control panel greatly simplifying matters.   When restarting the computer simply hold down the space–bar and follow the instructions.

4) The System Software has become corrupted.   Almost always, the only way out of this is to reinstall the corrupted part of your system.   Use your backup copy of the System Disks to reinstall whatever is corrupted.   To perform what is known as a clean install, delete the System Folder entirely (after first making sure all your extensions, control panels, and fonts are backed up), and reinstall from the System Disks.

5)   There is some minor corruption of your hardware.   This is usually a bad sector on a floppy or hard disk that is preventing data from being read correctly.   The only way out of this is to recover what data you can from the damaged disk and reformat the disk.   It is also possible for bombs to be the result of a loose or dirty RAM chip connection or cable.

6) You have a virus.   Although the different kinds of virus's attacking the Macintosh have increased, the actual amount of computers infected has gone way down.   I've personally never had a virus (I use Gatekeeper and Disinfectant, two excellent virus protection programs).   All you need is the latest version of Disinfectant (As of this writing, 3.6), a freeware program.   It'll scan all your hard disks and/or floppy disks looking for a virus and killing it.   It then try's to make repairs to any damage they (the virus) may have made.   All computers should have some form of virus protection on them.   Please note that a Macintosh cannot be infected by an IBM virus, but, as more and more Mac users run Windows or DOS on their Macs, anything is possible.   See the chapter, "Introduction to the Virus" for more information on virus's

What other things can I do to prevent another bomb?

• Increase the amount of memory a program uses--many application problems are caused by low memory conditions.   You should increase the memory at least to the "suggested size"; if the memory is already that size, try increasing it by another 512 K (through the Get Info command in the File menu).

• Run MacCheck's tests (a program by Apple that tells you everything you would want to know about your Macintosh, press the "Test" button).   MacCheck's tests check for corrupted directories.   If MacCheck finds a corrupted directory, you will need to run a utility, such as Apple's Disk First Aid, to fix the problem.

• Restart your machine holding down the "Shift" key (only that key)--doing this tells your Macintosh to turn off the loading of its INITs.

• Contact the program's manufacturer.   You might have an older copy of the program that cannot run with this version of the system software.

• If none of the above suggestions helped fix the problem, contact Apple's Assistance Center at 1-800-776-2333, Monday through Friday, 6:00 A.M. to 5:00 P.M. Pacific Time.