



Common Coding Mistakes

When you start something new you're inevitably going to make mistakes, this is purely down to inexperience and those mistakes are great teachers in themselves. However, even experts make the occasional mishap. Thing is, to learn from them as best you can.

X=MISTAKE, PRINT Y

There are many pitfalls for the programmer to be aware of, far too many to be listed here. Being able to recognise a mistake and fix it is when you start to move into more advanced territory, and become a better coder. Everyone makes mistakes, even coders with over thirty years' experience. Learning from these basic, common mistakes help build a better coding foundation.



SMALL CHUNKS

It would be wonderful to be able to work like Neo from The Matrix movies. Simply ask, your operator loads it into your memory and you instantly know everything about the subject. Sadly though, we can't do that. The first major pitfall is someone trying to learn too much, too quickly. So take coding in small pieces and take your time.



EASY VARIABLES

Meaningful naming for variables is a must to eliminate common coding mistakes. Having letters of the alphabet is fine but what happens when the code states there's a problem with x variable. It's not too difficult to name variables lives, money, player1 and so on.

```
1 var points = 1023;
2 var lives = 3;
3 var totalTime = 45;
4 write("Points: "+points);
5 write("Lives: "+lives);
6 write("Total Time: "+totalTime+" secs");
7 write("-----");
8 var totalScore = 0;
9 write("Your total Score is: "+totalScore);
```

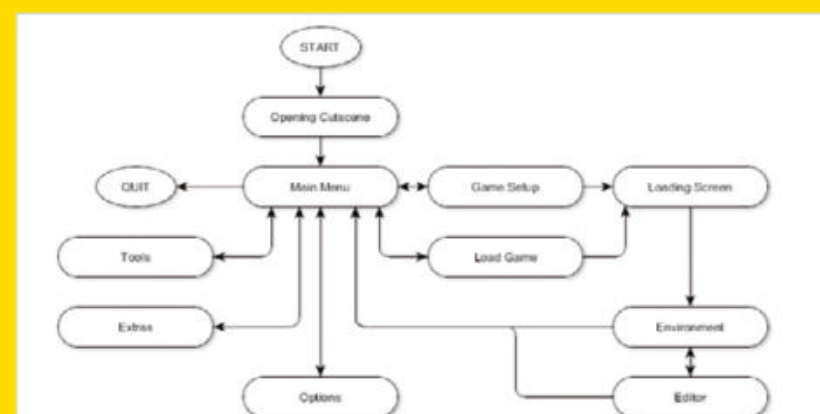
//COMMENTS

Use comments. It's a simple concept but commenting on your code saves so many problems when you next come to look over it. Inserting comment lines helps you quickly sift through the sections of code that are causing problems; also useful if you need to review an older piece of code.

```
52 orig += 2;
53 target += 2;
54 --n;
55 }
56 #endif
57 if (n == 0)
58 return;
59
60 //
61 // Loop unrolling. Here be dragons.
62 //
63
64 // (n & (~3)) is the greatest multiple of 4 n
65 // In the while loop ahead, orig will move ov
66 // increments (4 elements of 2 bytes).
67 // end marks our barrier for not falling out
68 char const * const end = orig + 2 * (n & (~3))
69
70 // See if we're aligned for writing in 64 or
71 #if ACE_SIZEOF_LONG == 8 && \
72 !((defined( amd64 ) || defined( x86_64
```

PLAN AHEAD

While it's great to wake up one morning and decide to code a classic text adventure, it's not always practical without a good plan. Small snippets of code can be written without too much thought and planning but longer and more in-depth code requires a good working plan to stick to and help iron out the bugs.



USER ERROR

User input is often a paralysing mistake in code. For example, when the user is supposed to enter a number for their age and instead they enter it in letters. Often a user can enter so much into an input that it overflows some internal buffer, thus sending the code crashing. Watch those user inputs and clearly state what's needed from them.

```
Enter an integer number
aswdfdsf
You have entered wrong input
$
You have entered wrong input
!"@#$%^&*
You have entered wrong input
sdfdsf213213123
You have entered wrong input
123234234234234
You have entered wrong input
12
the number is: 12

Process returned 0 (0x0)   execution time : 21.495 s
Press any key to continue.
```

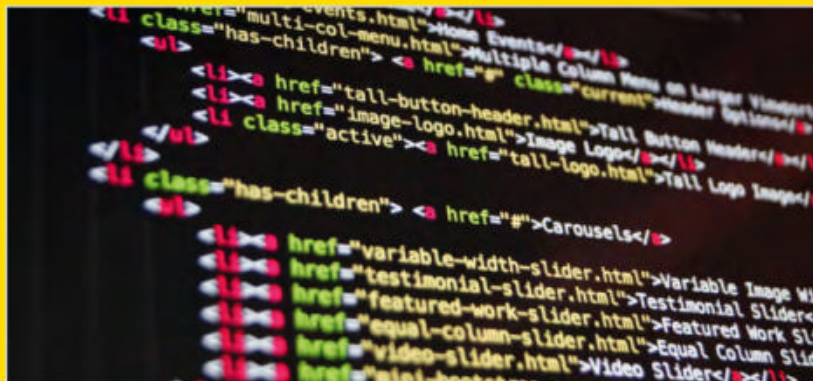
BACKUPS

Always make a backup of your work, with a secondary backup for any changes you've made. Mistakes can be rectified if there's a good backup in place to revert to for those times when something goes wrong. It's much easier to start where you left off, rather than starting from the beginning again.



RE-INVENTING WHEELS

You can easily spend days trying to fathom out a section of code to achieve a given result and it's frustrating and often time-wasting. While it's equally rewarding to solve the problem yourself, often the same code is out there on the Internet somewhere. Don't try and re-invent the wheel, look to see if some else has done it first.



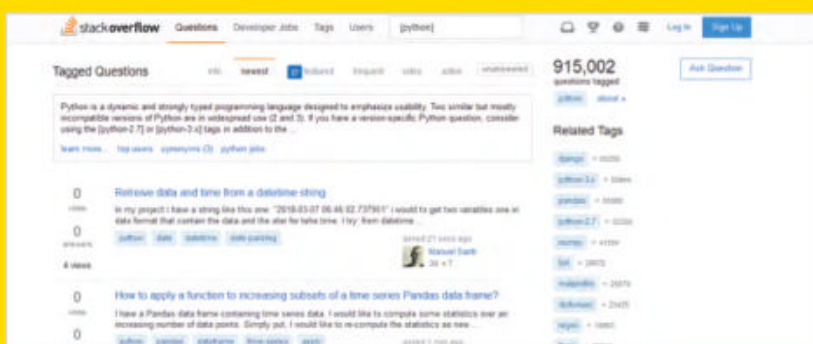
SECURE DATA

If you're writing code to deal with usernames and passwords, or other such sensitive data, then ensure that the data isn't in cleartext. Learn how to create a function to encrypt sensitive data, prior to feeding into a routine that can transmit or store it where someone may be able to get to view it.



HELP!

Asking for help is something most of us has struggled with in the past. Will the people we're asking laugh at us? Am I wasting everyone's time? It's a common mistake for someone to suffer in silence. However, as long as you ask the query in the correct manner, obey any forum rules and be polite, then your question isn't silly.



MATHS

If your code makes multiple calculations then you need to ensure that the maths behind it is sound. There are thousands of instances where programs have offered incorrect data based on poor mathematical coding, which can have disastrous effects depending on what the code is set to do. In short, double check your code equations.

```
set terminal x11
set output

rmax = 5
nmax = 100

complex(x, y) = x + {1, 0} + y * {0, 1}
mandel(x, y, z, n) = (abs(z) > rmax || n == 100)? n: mandel(x, y, z = z + complex(x, y), n + 1)

set xrange [-0.5:0.5]
set yrange [-0.5:0.5]
set logscale z
set samples 200
set isosample 200
set pm3d map
set size square
a = #A#
b = #B#
plot mandel(-a/100, -b/100, complex(x, y), 0) notitle
```