Why does this not work?

by AMG

Why does this not work?

- Can it be this line? Is this expression written correctly? I do not even know whether I made only one error or multiple errors...

Why does this not work?

- Hi, I am Lemmy the lemur and my code does not work. I still could not figure out what the problem is after 8 hours.

Why does this not work?

- I am still looking for it eyes wide open... And still could not find the problem... Can it be this line? Or this line? Why does this not work? ...

Why does this not work?

Lemmy does not obey the steps in these slides and having a hard time finding out the problem in his code.

Going through these steps will help you to pinpoint the problem in your code. (But just keep in mind that finding the problem and solving the problem are separate steps.)

If something does not work:

- 1) Put debug statements everywhere. (At least after every important step)

  That line calculates a value? Let us see the result. How about checking the variables which are used in calculation? Were they correct? Let us see them, too! Thus, this:

  x=y+z; //Calculating x using y and z

  Becomes this:

  cout<<"y: "<<y<<"z: "<<z<<endl; //DEBUG

  x=y+z; //Calculating x using y and z

  cout<<"x: "<<x<<endl; //DEBUG

If something does not work:

- 2) Analyze your own code. Just go through it, mimic its execution. Take note of the values of every variable in your code. You will most probably find the problem by yourself (though you may need some help to fix it :D)

  Also check "Common Mistakes".

If something does not work:

- 3) Do not use something if you do not exactly know how it works. If you do not know how something works, test it (Hint: Keep a separate project named "test" in which you can make all your dirty experiments, keeping your original project clean.)

  Use extra extra parenthesis to be safe. (After trying to find a bug for 4 hours and realize it would not occur if used extra parenthesis teaches one a good habbit :D) (You can omit extra parenthesis when you become an expert, which is most probably not now.)

  Keep operator precedence in mind. Are you sure that expression you have written there is calculated as you thought? If you are not sure, test it or use extra paranthesis or do both(which is the best).

If something does not work:

- 4) Check you logical statements.

  !(A&&B) is equivalent to (!A)||(!B)

  (Classical De Morgan's Law Example)

  A||(!B) is equivalent to !((!A)&&B)

  (Can be proven easily)

  etc...

  If you are not familiar with these, I would highly recommend to get better at logic. Draw Venn diagrams if you need to and find correct logical expression.

If something does not work:

- 5) Read posts on Piazza.

  Ideally, read all the posts on Piazza and if you are able to, help others. Helping others helps you to get better.

  Keeping on asking questions that are already answered on Piazza is not a nice thing to do. But this should not make you shy about asking questions, just look through Piazza and if your problem is still not solved, do not hesitate to ask your question.

If something does not work:

- 6) Read the error messages and warnings that your compiler gives if you have any.

  Try to get rid of errors/warnings the order they appear on your compiler. Sometimes solving error #1 may automatically solve error #14.

  Also do not worry about high number of errors. Get rid of them one by one.

  Sometimes adding a single forgotten ")" may solve 37 (maybe even more) errors at once

If something does not work:

- 7) If you get an error or warning and would like to ask about it on Piazza, post the entire error message. Be as informative as possible.

  Good:
  Hi. I get this error:
  Error 1 error C2440: 'return' : cannot convert from 'std::basic_istream<char,std::char_traits<char>>' to 'bool'
  c:\users\amg\documents\visual studio 2013\projects\project1\project1\source.cpp 24 1 Project4
  For this line:
  return in >> min >> max >> type >> opt;
  In function getValidSequence.

  Bad:
  i get a cannot convert error what should i do thx

If something does not work:

- 8) We do not expect this from you for now, but being self-sufficient (making a search on the web for your problem and solve it yourself) is a great skill. (In professional life, there will be no TAs to babysit you, so you should be self-sufficient.)

  Do not get too confused from the stuff you have read on the web. If you start to get confused, ask us.

  Avoid using functions that are not thought (or used) by your instructors. You can find a fancy-looking function on the web that looks perfect for your purposes. But they are usually useless because they usually work different than your expectations. (Happened countless times to me. :D)

If something does not work:

Is there a problem in your code, bro?

- 9) Collaborate!

  Students understand each other much better than instuctors and slightly better than TAs (TAs are also students, kinda... Really! :D)

If something does not work:

- 10) But do not cheat! (I know you knew this was coming... :D)

  Do not give parts of your codes to your friends. Instead you can tell where their problems are or discuss algorithms with them.

  Using someone else's code is like swallowing food chewed by someone else. Ewww... Do not do that!

If something does not work:

- 11) "Finding the problem" and "Solving the problem" are different things. You should be able to find the problem if you went through all these steps. Then you may do "solsing the problem" step.

  When asking a question on Piazza, keep this in mind.

  You can ask about both of these steps, but you should be able to find out the problem and asking mostly about "solving the problem".

If something does not work:

- 12) If you plan to ask something to TAs about your code, post your code in a private message on Piazza.

  Do not forget to put enough comments on your code since you are expecting someone else to read it. (Remember, even "future you" is "someone else". Thus always put enough comments in your code)

  Also, use meaningful variable names.

  Ununderstandable variable names = Nobody can help you.

  If you went through previous steps and applied them to your code, your code should have good shape(tabs, spaces) with comments thus easily readable; have debug lines which further helps to find the problem. Thus TAs may reply you much faster, which would be good for you.