Diagnosis and troubleshooting are two different processes that work towards the same objective, identify problems and or repair them. Often you perform diagnosis before attempting to trouble shoot; however Troubleshooting may exist without diagnosis and vice versa. Both processes aim to fix software or hardware and solve problems if that’s the case then what’s the difference? Diagnosing a computer involves observing how it functions by looking for symptoms to problems, while trouble shooting attempts a fix through a systematic check of parts. In a lot of cases people use the two terms interchangeably to mean fixing a malfunctioning computer. However this article will primarily focus on the differences between diagnosing and troubleshooting when used in software development.

Diagnosing a computer frequently needs to happen before you proceed to troubleshooting. It usually involves replicating the same exact activities the user did prior to the problem occurring, sometimes utilizing software to achieve this. The methodology behind diagnosis believes it is much easier to eliminate a problem if you figure out where the issue is stemming from, than to just start attempting things randomly with no idea or direction. Skipping diagnosis and trying random hotfixes for an unknown problem may also lead to more problems than you initially intended, while simultaneously wasting time leaving you frustrated. Diagnosing first is so important at times it may fix your issues all together, eliminating the need to troubleshoot at all. “Typically, over 50% of the cases, the corrective action can be diagnosed unambiguously by reasoning on the presence and absence of error codes. For those cases, troubleshooting can be completely eliminated.” –teamqsi.com

Troubleshooting is a more hands on systematic check of parts while diagnosis attempts to find problems looking at the symptoms. You start troubleshooting by ruling out the obvious, check the power supply and make sure all the connectors are clean and connected properly (if the situation fits). Then from there each suspect component must be checked, sometimes technology can develop faulty parts and the easiest way to tell is by replacing it with a new part. If the problem goes away then you found your problem. Running a computer diagnosis test will likely not tell you if you’re using a faulty cable or part. If your problem doesn’t go away then you can adjust your diagnosis accordingly!

In summary, diagnosis is the precursor to troubleshooting however the two may be used interchangeably in synergy. You attempt to diagnose the problem through troubleshooting to identify a problematic component or alter your diagnosis and continue troubleshooting or vice versa. The two are synonymous but you can see why it would be difficult to troubleshoot without any diagnosis. In conclusion, troubleshooting and diagnosis in synergy leads to results.