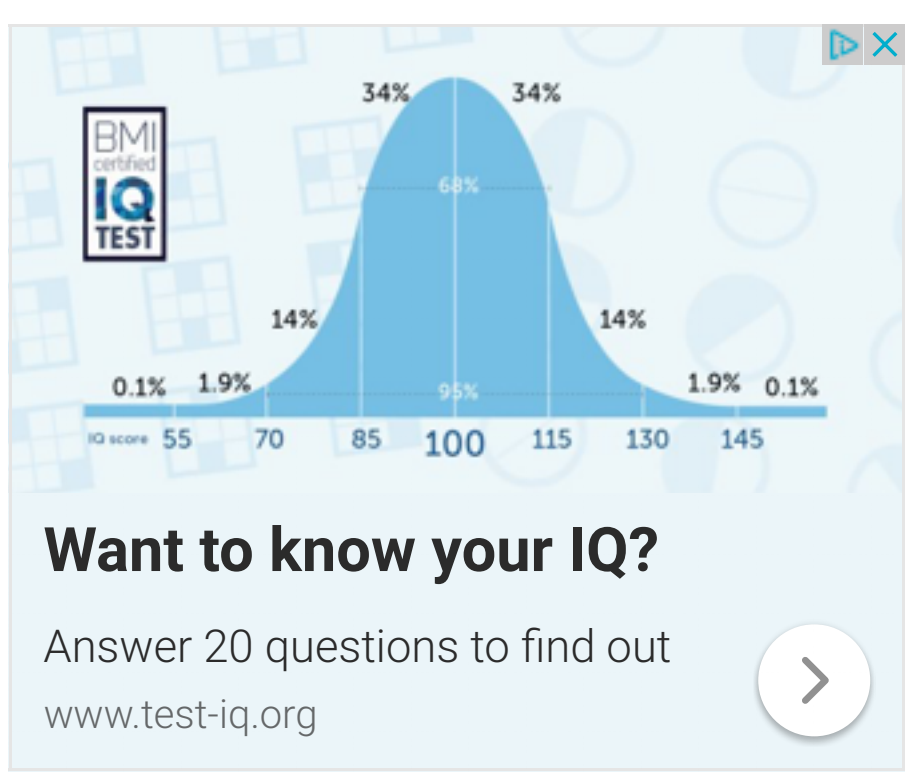


## Unit Test vs Integration Test: What's the Difference?



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### What is the Unit Test?

**Unit Tests** are conducted by developers and test the unit of code( aka module, component) he or she developed. It is a testing method by which individual units of source code are tested to determine if they are ready to use. It helps to reduce the cost of bug fixes since the bugs are identified during the early phases of the development lifecycle.

### What is Integration Test?

**Integration testing** is executed by testers and tests integration between software modules. It is a software testing technique where individual units of a program are combined and tested as a group. Test stubs and test drivers are used to assist in Integration Testing. Integration test is performed in two way, they are a bottom-up method and the top-down method.

Below is a detailed comparison between the two-

Unit test	Integration test
<ul style="list-style-type: none"><li>The idea behind Unit Testing is to test each part of the program and show that the individual parts are correct.</li></ul>	<ul style="list-style-type: none"><li>The idea behind Integration Testing is to combine modules in the application and test as a group to see that they are working fine</li></ul>
<ul style="list-style-type: none"><li>It is kind of <b>White Box Testing</b></li></ul>	<ul style="list-style-type: none"><li>It is kind of <b>Black Box Testing</b></li></ul>
<ul style="list-style-type: none"><li>It can be performed at any time</li></ul>	<ul style="list-style-type: none"><li>It usually carried out after Unit Testing and before <b>System Testing</b></li></ul>
<ul style="list-style-type: none"><li>Unit Testing tests only the functionality of the units themselves and may not catch integration errors, or other system-wide issues</li></ul>	<ul style="list-style-type: none"><li>Integrating testing may detect errors when modules are integrated to build the overall system</li></ul>
<ul style="list-style-type: none"><li>It starts with the module specification</li></ul>	<ul style="list-style-type: none"><li>It starts with the interface specification</li></ul>
<ul style="list-style-type: none"><li>It pays attention to the behavior of single modules</li></ul>	<ul style="list-style-type: none"><li>It pays attention to integration among modules</li></ul>
<ul style="list-style-type: none"><li>Unit test does not verify whether your code works with external dependencies correctly.</li></ul>	<ul style="list-style-type: none"><li>Integration tests verify that your code works with external dependencies correctly.</li></ul>
<ul style="list-style-type: none"><li>It is usually executed by the developer</li></ul>	<ul style="list-style-type: none"><li>It is usually executed by a test team</li></ul>
<ul style="list-style-type: none"><li>Finding errors is easy</li></ul>	<ul style="list-style-type: none"><li>Finding errors is difficult</li></ul>
<ul style="list-style-type: none"><li>Maintenance of unit test is cheap</li></ul>	<ul style="list-style-type: none"><li>Maintenance of integration test is expensive</li></ul>

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## KEY DIFFERENCE

- Unit testing is a testing method by which individual units of source code are tested to determine if they are ready to use, whereas Integration testing checks integration between software modules.
- Unit Testing test each part of the program and shows that the individual parts are correct, whereas Integration Testing combines different modules in the application and test as a group to see they are working fine.
- Unit Testing starts with the module specification, while Integration Testing starts with interface specification.
- Unit Testing can be performed at any time, on the other hand, Integration Testing is performed after unit testing and before system testing.
- Unit Testing is executed by the developer, whereas Integration Testing is performed by the testing team.
- Unit Testing errors, can be found easily, whereas Integration Testing it is difficult to find errors.
- Unit Testing is a kind of white box testing, whereas Integration Testing is a kind of black-box testing.

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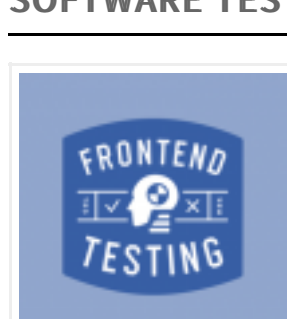
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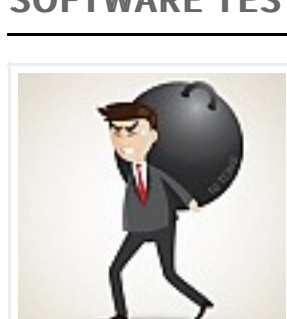


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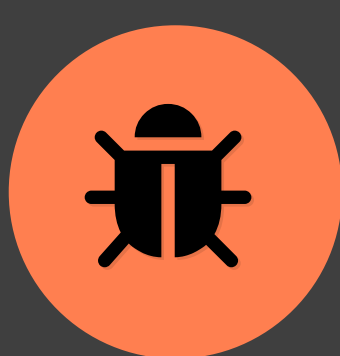
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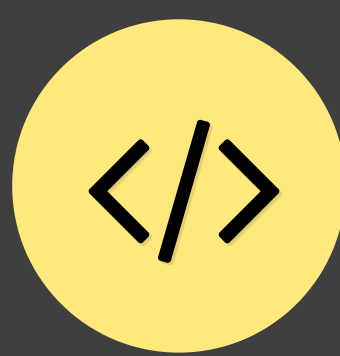
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