

Object-Oriented Design 3:

Static Methods and Variables

	Methods	Variables
Static/Class	<ul style="list-style-type: none">- The method is associated with the class rather than the object.- The method can be invoked with the classname- For example: <code>Math.sqrt()</code>.	<ul style="list-style-type: none">- The variable is associated with the entire class rather than each object.- All objects can access this variable.- Changing this for one object changes it for all (they all share the same variable).
Instance	<ul style="list-style-type: none">- Methods that must be invoked by an object of a class. Cannot be invoked by class name.	<ul style="list-style-type: none">- Variables specific to an object or instance of a class. Each object has its own variable, and does not share this with other objects.

Why can we not access instance data from static methods?

The object has not been created! Static methods do not know if an object has been created, because static methods do not need to have an object associated with them. Even if an object was there, which object would the static method refer to, since the static method is invoked through the class name and not the object/instance name.