**Dalvik** is the [process virtual machine](http://en.wikipedia.org/wiki/Process_virtual_machine) (VM) in [Google's](http://en.wikipedia.org/wiki/Google) [Android operating system](http://en.wikipedia.org/wiki/Android_(operating_system)). It is the software that runs the [apps](http://en.wikipedia.org/wiki/Android_Market) on Android devices. Dalvik is thus an integral part of Android, which is typically used on mobile devices such as [mobile phones](http://en.wikipedia.org/wiki/Mobile_phone) and [tablet computers](http://en.wikipedia.org/wiki/Tablet_computer)as well as more recently on embedded devices such as smart TVs and media streamers. Programs are commonly written in [Java](http://en.wikipedia.org/wiki/Java_programming_language) and compiled to [bytecode](http://en.wikipedia.org/wiki/Bytecode" \o "Bytecode). They are then converted from [Java Virtual Machine](http://en.wikipedia.org/wiki/Java_Virtual_Machine)-compatible [.class](http://en.wikipedia.org/wiki/.class) files to Dalvik-compatible .dex (Dalvik Executable) files before installation on a device. The compact Dalvik Executable format is designed to be suitable for systems that are constrained in terms of [memory](http://en.wikipedia.org/wiki/Random_access_memory) and [processor](http://en.wikipedia.org/wiki/Central_processing_unit) speed.

DVM instructions are :

NOTE : All Vx values denote a Dalvik register.

1.

instruction name: move

Moves the content of vy into vx

syntax: move vx,vy

Example : move v0, v1

2.

instruction name:  monitor of the object

Obtains the monitor of the object referenced by vx

syntax: monitor-enter vx

Example : monitor-enter v1

3.

instruction name: instance

Checks whether vy is instance of a class identified by type\_id. Sets vx non-zero if it is, 0 otherwise

syntax: instance-of vx,vy,type\_id

Example :  instance-of v0, v1, Test3 // type@0001

4.

instruction name: number of elements of the array

Calculates the number of elements of the array referenced by vy and puts the length value into vx

syntax: array-length vx,vy

Example :  array-length v1, v1

5.

instruction name: switch statement

Implements a switch statement where the case constants are close to each other. The instruction uses an index table. vx indexes into this table to find the offset of the instruction for a particular case. If vx falls out of the index table, the execution continues on the next instruction (default case)

syntax: packed-switch vx,table

Example : packed-switch v2, 000c // +000c

6.

instruction name: iget

Reads an instance field into vx. The instance is referenced by vy

syntax: iget vx, vy, field\_id

Example :  iget v0, v1, Test2.i6:I // field@0003