Blockly Glossary

The vocabulary below is used throughout all the blockly activities, lessons, and presentations for the Dobot Magician. These key terms are all related to the Blockly programming language in DobotStudio. Please note that not all commands are defined here, just the ones most important to completing the activities.

Term	Type of Command *(if Applicable)*	Definition
Blockly		A programming language used to program a Dobot Magician. Lines of complex code are represented as simple "blocks" that fit together to form programs. A graphical programming method rather than text based.
ChooseEndTools	Config	A blockly config command that allows you to set the end effector to be used in the program
Comment		Can be used in blockly to name a position, or add a comment in english, that the program will not read. These are commonly used as notes for the programmer and the operator.
Condition		This is what needs to be true in order for a set of instructions or a program to continue. It is also very useful in looping programs.
Delaytime	Basic	A blockly basic command that allows you to delay, or pause in a program for a given amount of time in seconds.
Forever loop		A programming method used to make an instruction or a set of instructions continue forever.
Function		A named section of a program that performs a task. It can also be considered a procedure or a routine and greatly simplifies otherwise complicated programs.
GetADInput	I/O	A blockly I/O command that returns the value of a specified analog input. this can only work with analog inputs inputs 1, 5, 7, 9, 12, and 15.
GetCurrentCoordinate	Motion	A blockly motion command that returns the XYZ values of the robot's current position.
GetJointAngle	Motion	A blockly motion command that returns the value of a specified robot joint.
GetLevelInput	I/O	A blockly I/O command that returns the value of a specified input.

GetPhotoelectricSensor	Additional	A blockly additional command that returns the value of the sensor plugged into a given port.
Function		A named section of a program that performs a task. It can also be considered a procedure or a routine and greatly simplifies otherwise complicated programs. Also called a Void.
Gripper	Motion	A blockly motion command that allows you to turn the gripper on and off in order to grip or release a part.
Home	Basic	A blockly basic command
IdentifyColor	Additional	A blockly additional command that allows you to choose what color to identify with the color sensor: red, green, or blue.
If/Else If/Else	Logic	A blockly logic command that allows a branch in a program. It compares two or more sets of data and if it is true it does one thing, if false it will do another.
JumpTo	Motion	A blockly motion command that will move from one point to another, while increasing the Z height, causing the robot to "jump" to the next position. The default is set to 20 mm.
Laser	Additional	A blockly additional command that turns the laser on and off and allows you to set the power.
Matrix		A rectangular array of parts made of a finite number of rows and columns. a good example is an array of boxes on a pallet.
MoveDistance	Motion	A blockly motion command that allows you to move the robot's end effector relative to where it's position is presently in its work envelope.
MoveLinearRailTo	Additional	A blockly additional command that allows you to move the Linear slide rail to any given point.
MoveTo	Motion	A blockly motion command that allows you to move the robot's end effector to a given XYZ coordinate within the robot's work envelope.
NumberBlock	Math	A blockly math command that allows you to set a variable to a number.
Placeholder		A value used to fill in a blank in a program to be changed to a different value, once that value is determined. For example, the values of XYZ in a program do not need to be known before you write the program.
Repeat	Loop	A blockly loop command that allows you to make a set of instructions repeat a given number of times.
ReturnSum	Math	A blockly math command that can be used to easily change a variable.
SetColorSensor	Additional	A blockly additional command that allows to turn the color sensor

		on and off, what version it is, and what port it is plugged in to.
SetConveyor	Additional	A blockly additional command that allows you tell the program where it is plugged in, and what speed you want it to move at n mm per second.
SetCoordinateSpeed	Config	A blockly config command
SetEndEffectorParams	Config	A blockly config command that allows you to offset the XYZ position of an end effector.
SetJointAngle	Motion	A blockly motion command that allows you to move an individual joint on the robot.
SetJointSpeed	Config	A blockly config command
SetJumpHeight	Config	A blockly config command that allows you to set the jump height in a program.
SetLinearRailSpeed	Config	A blockly config command that allows you to set the velocity and acceleration of the attached linear rail.
SetLinearSlideRail	Additional	A blockly additional command that allows you to tell the program what version of the slide rail you are using, and whether you want it on or off.
SetIOMultiplexing	I/O	A blockly I/O command
SetLostStepParams	Config	A blockly config command
SetMotionRatio	Config	A blockly config command that allows you to set a default velocity and acceleration of a robot's moves between positions.
SetPhotoelectricSensor	Additional	A blockly additional command that allows you to turn the photoelectric sensor on or off, tell it what version it is that is plugged in, and what port it is plugged into.
SetItem	Variable	A blockly command that allows you to set a new variable or change a variable within a program.
SetR	Motion	A blockly motion command
SuctionCup{ON/OFF]	Motion	A blockly motion command that turns the suction cup on or off.
True	Logic	A blockly logic command that can be used to create a forever loop.
Variable		A changeable quantity in a program that can be represented by a word or a letter. Variables can be assigned, changed, or referenced throughout a program.
While loop	Loop	A programming method to make an instruction or set of instructions continue or repeat if a condition is true.