

# Assembly but Readable and Better (ARB) - Reference Sheet

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## Instructions

#a, #b=register, imm=immediate

Instruction	Syntax	Type	Code
Add	#a + #b	2R	000
Set equal to	#a == #b	2R	001
Set less than	#a < #b	2R	010
Set less than or equal	#a <= #b	2R	011
Assign value	#a = imm	RI	100
System call	syscall imm	I	101
Jump	jump imm	I	110
Jump if true	if #a jump imm	RI	111

Registers	Code
#1	00
#2	01
#3	10
#4	11

## Instruction formats

Instruction size = 8 bits

2R-type (Two registers):

Op-code	#a	#b	-
3 bits	2 bits	2 bits	1 bit

RI-type (Register immediate):

Op-code	#a	imm
3 bits	2 bits	3 bits

I-type (Immediate):

Op-code	imm
3 bits	5 bits

## System calls

Function	Value
Print	0
Read (input in #1)	1