

# Assembly Language Cheat Sheet

## LMC Functions

Function	LMC Mnemonic	LMC Code	What does it do?
Input	INP	901	Copies the value inputted by the user into the Accumulator.
Output	OUT	902	Copies the value in the Accumulator into the Output box.
Halt	HLT	000	This instruction does not affect any of the memory locations and stops the program.
Store	STA	3__	Copies the value from the Accumulator and places it in an allocated memory location referred to by the variable name given.
Load	LDA	5__	Copies the value stored at the memory location, given by the variable, into the Accumulator.
Data	DAT		Reserves a memory location to store data. This location can be referred to by the given variable name.
Add	ADD	1__	Adds the value stored in the given memory location to the Accumulator.
Subtract	SUB	2__	Subtracts the value stored in the given memory location away from the Accumulator.
Branch Always	BRA	6__	Updates the Program Counter to the memory location referred to by the variable given.
Branch if Zero	BRZ	7__	Updates the Program Counter to the memory location referred to by the variable given if the value in the Accumulator is equal to zero
Branch if Positive (or Zero)	BRP	8__	Updates the Program Counter to the memory location referred to by the variable given if the value in the Accumulator is zero or positive.

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## Keywords

**Assembly Languages**

**Accumulator**

**Memory Addresses**

**Output Box**

**Von Neumann Architecture**

**Program Counter**

**Input Box**

**Instruction and Address register**

**Assembly Languages** - low level programming languages that do not resemble natural languages, such as English or Welsh. They use an assembler to convert a program into machine code that can be run by the Computer.

**Von Neumann Architecture** - is the name of the architecture which stores both instructions and data within the same memory addresses and uses the same bus for both.

**Program Counter** - this shows the current memory location that the processor is running.

**Memory Addresses** - these are the RAM addresses which are used to store instructions and data.

**Input Box** - this is where the user inputs are stored initially before being copied to the accumulator.

**Output Box** - this is where a value is copied to, from the accumulator to display to the user.

**Instruction and Address register** - this shows which instruction is being used and which memory address it is being used on.