

# VMIPS Instruction set

Instruction Operands		Function
ADDVV. D	V1, V2, V3	Add elements of V2 and V3, then put each result in V1.
ADDVS. D	V1, V2, FO	Add FO to each element of V2, then put each result in V1.
SUBVV. D	V1, V2, V3	Subtract elements of V3 from V2, then put each result in U.
SUBVS. D	V1, V2, FO	Subtract FO from elements of V2, then put each result in V1.
SUBSV. D	V1, FO, V2	Subtract elements of V2 from FO, then put each result in V1.
MULVV. D	V1, V2, V3	Multiply elements of V2 and V3, then put each result in V1.
MULVS. D	V1, V2, FO	Multiply each element of V2 by FO, then put each result in U.
DIVVV. D	V1, V2, V3	Divide elements of V2 by V3, then put each result in V1.
DIVVS. D	V1, V2, FO	Divide elements of V2 by FO, then put each result in V1.
DIVSV. D	V1, FO, V2	Divide FO by elements of V2, then put each result in V1.
LV	V1, R1	Load vector register V1 from memory starting at address R1.
SV	R1, V1	Store vector register V1 into memory starting at address R1.
LVWS	V1, (R1, R2)	Load V1 from address at R1 with stride in R2 (i.e., $R1 + i \times R2$ ).
SVWS	(R1, R2) V1	Store V1 to address at R1 with stride in R2 (i.e., $R1 + i \times R2$ ).
<u>LVI</u>	<u>V1, (R1+V2)</u>	<u>Load V1 with vector whose elements are at <math>R1 + V2(i)</math> (i.e., V2 is an index).</u>
<u>SVI</u>	<u>(R1+V2) V1</u>	<u>Store V1 to vector whose elements are at <math>R1 + V2(i)</math> (i.e., V2 is an index).</u>
CVI	Vi, R1	Create an index vector by storing the values $0, 1 \times R1, 2 \times R1, \dots, 63 \times R1$ into V1.
S--VV. D	Vi, V2 condition is true, put a	Compare the elements (EQ, NE, GT, LT, GE, LE) in V1 and V2. If
PCIP	R1, VM	Count the is in vector-mask register VM and store count in R1.
CVM		Set the vector-mask register to all Is.
MTC1	VLR, R1	Move contents of R1 to vector-length register VL.
MFC1	R1, VLR	Move the contents of vector-length register VL to R1.
MVTM	VM, FO	Move contents of FO to vector-mask register VM.
MVFM "	FO, VM	Move contents of vector-mask register VM to FO.