

CLAIMS

1. A computer program product for facilitating processing within a computing environment, the computer program product comprising: a computer readable storage medium readable by a processing circuit and storing instructions for execution by the processing circuit for performing a method comprising: obtaining an instruction to be executed, the instruction to perform a comparison of a first value and a second value; and executing the instruction, the executing including: determining, based on a control of the instruction, a compare function to be performed, wherein the compare function is one of a plurality of different types of compare functions configured for the instruction, the plurality of different types of compare functions including a plurality of techniques for at least one type of compare operation, and wherein the compare function has a plurality of options for comparison; selecting, from the plurality of options for the compare function, a compare option to be used to compare the first value and the second value, the compare option selected based on the first value and the second value; comparing the first value and the second value using the compare option to obtain a result, the result specific for the compare option selected for the compare function indicated by the control of the instruction; and placing the result in a select location, the result to be used in processing within the computing environment.
2. The computer program product of claim 1, wherein the plurality of options include a plurality of pairs of particular cases selectable for comparison.
3. The computer program product of claim 2, wherein the plurality of pairs of particular cases include at least one pair of particular cases that includes at least one particular case selected from the group of particular cases comprising: an infinity, a not-a-number (NAN), and a signed zero.
4. The computer program product of claim 1, wherein the plurality of different types of compare functions include at least one of a plurality of different types of maximum functions and a plurality of different types of minimum functions.

5. The computer program product of claim 4, wherein the plurality of different types of maximum functions comprise a plurality of maximum techniques to perform a maximum comparison.
6. The computer program product of claim 4, wherein the plurality of different types of minimum functions comprise a plurality of minimum techniques to perform a minimum comparison.
7. The computer program product of claim 1, wherein the first value and the second value are provided by the instruction, and wherein the first value is of one element of an operand of the instruction and the second value is of a corresponding element of another operand of the instruction.
8. The computer program product of claim 7, wherein a size of the one element is determined based on another control of the instruction.
9. The computer program product of claim 8, wherein the first value and the second value are floating point values, and the size of the one element depends on a floating point format of the floating point values, and wherein the other control indicates a selected floating point format.
10. The computer program product of claim 1, wherein the control is provided in a mask of the instruction.
11. A computer system for facilitating processing within a computing environment, the computer system comprising: a memory; and a processor in communication with the memory, wherein the computer system is configured to perform operations comprising: obtaining an instruction to be executed, the instruction to perform a comparison of a first value and a second value; and executing the instruction, the executing including: determining, based on a control of the instruction, a compare function to be performed, wherein the compare function is one of a plurality of different types of compare functions configured for the instruction, the plurality of different types of compare functions including a plurality of techniques for at least one type of

compare operation, and wherein the compare function has a plurality of options for comparison; selecting, from the plurality of options for the compare function, a compare option to be used to compare the first value and the second value, the compare option selected based on the first value and the second value; comparing the first value and the second value using the compare option to obtain a result, the result specific for the compare option selected for the compare function indicated by the control of the instruction; and placing the result in a select location, the result to be used in processing within the computing environment.

12. The computer system of claim 11, wherein the plurality of options include a plurality of pairs of particular cases selectable for comparison.

13. The computer system of claim 11, wherein the plurality of different types of compare functions include at least one of a plurality of different types of maximum functions and a plurality of different types of minimum functions.

14. The computer system of claim 11, wherein the first value and the second value are provided by the instruction, and wherein the first value is of one element of an operand of the instruction and the second value is of a corresponding element of another operand of the instruction.

15. The computer system of claim 14, wherein a size of the one element is determined based on another control of the instruction, and wherein the first value and the second value are floating point values, and the size of the one element depends on a floating point format of the floating point values, and wherein the other control indicates a selected floating point format.

16. A computer-implemented method of facilitating processing within a computing environment, the computer-implemented method comprising: obtaining, by at least one processor, an instruction to be executed, the instruction to perform a comparison of a first value and a second value; and executing the instruction, the executing including: determining, based on a control of the instruction, a compare function to be performed, wherein the compare function is one of a plurality of different types of compare functions configured for the instruction, the plurality of different types of compare functions including a plurality of

techniques for at least one type of compare operation, and wherein the compare function has a plurality of options for comparison; selecting, from the plurality of options for the compare function, a compare option to be used to compare the first value and the second value, the compare option selected based on the first value and the second value; comparing the first value and the second value using the compare option to obtain a result, the result specific for the compare option selected for the compare function indicated by the control of the instruction; and placing the result in a select location, the result to be used in processing within the computing environment.

17. The computer-implemented method of claim 16, wherein the plurality of options include a plurality of pairs of particular cases selectable for comparison.
18. The computer-implemented method of claim 16, wherein the plurality of different types of compare functions include at least one of a plurality of different types of maximum functions and a plurality of different types of minimum functions.
19. The computer-implemented method of claim 16, wherein the first value and the second value are provided by the instruction, and wherein the first value is of one element of an operand of the instruction and the second value is of a corresponding element of another operand of the instruction.
20. The computer-implemented method of claim 19, wherein a size of the one element is determined based on another control of the instruction, and wherein the first value and the second value are floating point values, and the size of the one element depends on a floating point format of the floating point values, and wherein the other control indicates a selected floating point format.