AMENDED CLAIMS
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1. A method for determining a length of a set of data comprising:

loading from memory to a register data that is within a specified block of memory, the data being at least a portion of the set of data for which the length is to be determined, the set of data for which the length is to be determined having a termination character that is a known predefined value;

obtaining a count of an amount of data loaded in the register;

determining, by a processor, a termination value for the data loaded in the register, the determining comprising checking the data loaded in the register to determine whether a register includes the termination character, and based on the register including the termination character, setting the termination value to a location of the termination character in the register, and based on the register not including the termination character, setting the termination value to a pre-specified value;

checking whether there is additional data to be counted based on at least one of the count and the termination value;

based on the checking indicating additional data is to be counted, incrementing the count based on the additional data, the count providing the length of the set of data; and

based on the checking indicating additional data is not to be counted, using the count as the length of the set of data.

2. The method of claim 1, wherein the checking comprises comparing the count with the termination value to determine whether additional data is to be counted.

3. The method of claim 1 or claim 2, wherein the obtaining the count comprises using a start address within the block of memory and a boundary of the block of memory to compute the count.

4. The method of any preceding claim, wherein the data comprises a plurality of units of data, the plurality of units of data being loaded in the register in parallel, and wherein the checking is performed in parallel.

5. The method of any preceding claim, wherein the loading is performed by a Vector Load to Block Boundary instruction and the block of memory is one of: specified by the Vector Load to Block Boundary instruction, or dynamically determined by a processor executing the Vector Load to Block Boundary instruction.

6. The method of any preceding claim, wherein the obtaining the count comprises using a Load Count to Block Boundary instruction.

7. The method of any preceding claim, wherein the determining a termination value comprises using a Vector Find Element Not Equal instruction, and the location comprises a byte index within the register.

8. The method of any preceding claim, wherein the termination character comprises a zero or null character.

9. The method of any preceding claim, wherein the length of the set of data is determined using no more than one branch instruction, and wherein the loading is performed absent crossing a boundary of the block of memory.

10. The method of claim 1, wherein the method further comprises obtaining computer code to determine the length, the computer code including a Vector Load to Block Boundary instruction to perform the loading, a Load Count to Block Boundary instruction to obtain the count, and a Vector Find Element Not Equal instruction to determine the termination value.

11. A computer system for determining a length of a set of data, the computer system comprising: a memory; and a processor in communications with the memory, wherein the computer system is configured to perform the method of any preceding claim.

12. A computer program product for determining a length of a set of data, 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 the method of any of claims 1 to 10.

CLAIMS:

1. A computer program product for determining a length of a set of data, the computer program product comprising:

a non-transitory computer readable storage medium readable by a processing circuit and storing instructions for execution by the processing circuit for performing a method comprising:

loading from memory to a register data that is within a specified block of memory, the data being at least a portion of the set of data for which the length is to be determined, the set of data for which the length is to be determined having a termination character, the termination character indicating an end of the set of data for which the length is to be determined and being a known fixed value pre-selected as the value to specify termination of sets of data, wherein the loading comprises loading from a starting address in memory to an ending address in memory, wherein the ending address is computed using a boundary size of the specified block of memory and a boundary mask, the boundary mask determined based on the boundary size and used to determine closeness to a specified boundary, and wherein a variable number of bytes of data are loaded from memory absent crossing the specified boundary of the block of memory from which the data is being loaded in the register, the variable number based on the starting address and the ending address;

obtaining a count of an amount of data loaded in the register;

determining, by a processor, a termination value for the data loaded in the register, the termination value to be used in determining the length of the set of data, the determining comprising checking the data loaded in the register to determine whether the data loaded in the register includes the termination character at a location within the register, and based on the data loaded in the register including the termination character, setting the termination value to a value indicating the location within the register of the termination character, and based on the data loaded in the register not including the termination character, setting the termination value to a pre-specified value to be used in determining the length of the set of data;

checking whether there is additional data to be counted based on at least one of the count and the termination value;

based on the checking indicating additional data is to be counted, incrementing the count based on the additional data, the incrementing including counting the additional data up to but excluding the termination character, the incremented count providing the length of the set of data; and

based on the checking indicating additional data is not to be counted, using the termination value as the length of the set of data.

2. The computer program product of claim 1, wherein the checking comprises comparing the count with the termination value to determine whether additional data is to be counted.

3. The computer program product of claim 1, wherein the obtaining the count comprises using a start address within the block of memory and a boundary of the block of memory to compute the count.

4. The computer program product of claim 1, wherein the data comprises a plurality of units of data, and wherein the loading comprises loading the plurality of units of data in the register in parallel, and wherein the checking the data loaded in the register is performed in parallel.

5. The computer program product of claim 1, wherein the loading is performed by an instruction that loads the data from the block of memory up to the boundary of the block of memory, and the block of memory is one of: specified by the instruction, or dynamically determined by a processor executing the instruction.

6. The computer program product of claim 1, wherein the obtaining the count comprises using a Load Count to Block Boundary instruction.

7. The computer program product of claim 1, wherein the determining a termination value comprises using a Vector Find Element Not Equal instruction, and the location comprises a byte index within the register.

8. The computer program product of claim 1, wherein the termination character comprises a zero or null character.

9. The computer program product of claim 1, wherein the length of the set of data is determined using no more than one branch instruction, and wherein the loading is performed absent crossing the boundary of the block of memory from which the data is being loaded into the register.

10. The computer program product of claim 1, wherein the method further comprises obtaining computer code to determine the length, the computer code including an instruction to perform the loading, an instruction to obtain the count, and an instruction to determine the termination value.

11. The computer program product of claim 1, wherein the obtaining the count comprises obtaining a count of a number of characters loaded in the register, and wherein the pre-specified value comprises a size of the register.

12. A computer system for determining a length of a set of data, the computer system comprising:

a memory; and

a processor in communications with the memory, wherein the computer system is configured to perform a method, the method comprising:

loading from memory to a register data that is within a specified block of memory, the data being at least a portion of the set of data for which the length is to be determined, the set of data for which the length is to be determined having a termination character, the termination character indicating an end of the set of data for which the length is to be determined and being a known fixed value pre-selected as the value to specify termination of sets of data, wherein the loading comprises loading from a starting address in memory to an ending address in memory, wherein the ending address is computed using a boundary size of the specified block of memory and a boundary mask, the boundary mask determined based on the boundary size and used to determine closeness to a specified boundary, and wherein a variable number of bytes of data are loaded from memory absent crossing the specified boundary of the block of memory from which the data is being: loaded in the register, the variable number based on the starting address and the ending address;

obtaining a count of an amount of data loaded in the register;

determining, by a processor, a termination value for the data loaded in the register, the termination value to be used in determining the length of the set of data, the determining comprising checking the data loaded in the register to determine whether the data loaded in the register includes the termination character at a location within the register, and based on the data loaded in the register including the termination character, setting the termination value to a value indicating the location within the register of the termination character, and based on the data loaded in the register not including the termination character,

setting the termination value to a pre-specified value to be used in determining the length of the set of data;

checking whether there is additional data to be counted based on at least one of the count and the termination value;

based on the checking indicating additional data is to be counted, incrementing the count based on the additional data, the incrementing including counting the additional data up to but excluding the termination character, the incremented count providing the length of the set of data; and

based on the checking indicating additional data is not to be counted, using the termination value as the length of the set of data.

13. The computer system of claim 12, wherein the obtaining the count comprises using a start address within the block of memory and a boundary of the block of memory to compute the count.

14. The computer system of claim 12, wherein the data comprises a plurality of units of data, and wherein the loading comprises loading the plurality of units of data in the register in parallel, and wherein the checking the data loaded in the register is performed in parallel.

15. The computer system of claim 12, wherein the loading is performed by an instruction that loads the data from the block of memory up to the boundary of the block of memory, and the block of memory is one of: specified by the instruction, or dynamically determined by a processor executing the instruction.

16. The computer system of claim 12, wherein the determining a termination value comprises using a Vector Find Element Not Equal instruction, and the location comprises a byte index within the register.

17. The computer system of claim 12, wherein the method further comprises obtaining computer code to determine the length, the computer code including an instruction to perform the loading, an instruction to obtain the count, and an instruction to determine the termination value.

18. A method of determining a length of a set of data, the method comprising:

loading from memory to a register data that is within a specified block of memory, the data being at least a portion of the set of data for which the length is to be determined, the set of data for which the length is to be determined having a termination character, the termination character indicating an end of the set of data for which the length is to be determined and being a known fixed value pre-selected as the value to specify termination of a set of data, wherein the loading comprises loading from a starting address in memory to an ending address in memory, wherein the ending address is computed using a boundary size of the specified block of memory and a boundary mask, the boundary mask determined based on the boundary size and used to determine closeness to a specified boundary, and wherein a variable number of bytes of data are loaded from memory absent crossing the specified boundary of the block of memory from which the data is being loaded in the register, the variable number based on the starting address and the ending address;

obtaining a count of an amount of data loaded in the register;

determining, by a processor, a termination value for the data loaded in the register, the termination value to be used in determining the length of the set of data, the determining comprising checking the data loaded in the register to determine whether the data loaded in the register includes the termination character at a location within the register, and based on the data loaded in the register including the termination character, setting the termination value to a value indicating the location within the register of the termination character, and based on the data loaded in the register not including the termination character, setting the termination value to a pre-specified value to be used in determining the length of the set of data;

checking whether there is additional data to be counted based on at least one of the count and the termination value;

based on the checking indicating additional data is to be counted, incrementing the count based on the additional data, the incrementing including counting the additional data up to but excluding the termination character, the incremented count providing the length of the set of data; and

based on the checking indicating additional data is not to be counted, using the termination value as the length of the set of data.

19. The method of claim 18, wherein the data comprises a plurality of units of data, and wherein the loading comprises loading the plurality of units of data in the register in parallel, and wherein the checking the data loaded in the register is performed in parallel.

20. The method of claim 18, further comprising obtaining computer code to determine the length, the computer code including an instruction to perform the loading, an instruction to obtain the count, and an instruction to determine the termination value.