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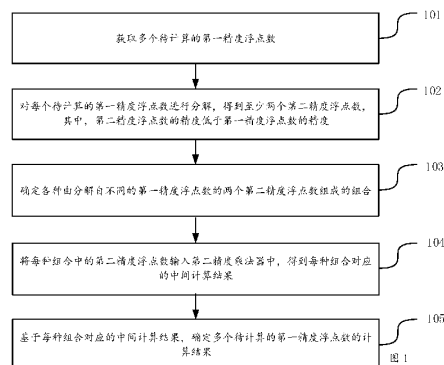
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(54) Title: FLOATING-POINT NUMBER MULTIPLICATION COMPUTATION METHOD AND APPARATUS, AND ARITHMETICAL LOGIC UNIT

(54) 发明名称: 浮点数乘法计算的方法、装置和算术逻辑单元



(57) Abstract: A floating-point number multiplication computation method and apparatus, and an arithmetical logic unit, relating to the field of data processing. The method comprises: obtaining a plurality of first precision floating-point numbers to be computed (101); decomposing each first precision floating-point number to be computed to obtain at least two second precision floating-point numbers, wherein the precision of the second precision floating-point numbers is lower than that of the first precision floating-point numbers (102); determining combinations composed of the two second precision floating-point numbers obtained by decomposing different first precision floating-point numbers (103); inputting the second precision floating-point numbers in each combination to a second precision multiplying unit to obtain an intermediate computation result corresponding to each combination (104); and on the basis of the intermediate computation result corresponding to each combination, determining a computation result of the plurality of first precision floating-point numbers (105). Computation resources are saved by using the present method.

- 101 Obtain a plurality of first precision floating-point numbers to be computed
102 Decompose each first precision floating-point number to be computed to obtain at least two second precision floating-point numbers, wherein the precision of the second precision floating-point numbers is lower than that of the first precision floating-point numbers
103 Determine combinations composed of the two second precision floating-point numbers obtained by decomposing different first precision floating-point numbers
104 Input the second precision floating-point numbers in each combination to a second precision multiplying unit to obtain an intermediate computation result corresponding to each combination
105 On the basis of the intermediate computation result corresponding to each combination, determine a computation result of the plurality of first precision floating-point numbers

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本国际公布:

- 包括国际检索报告 (条约第21条(3))。

(57) 摘要: 一种浮点数乘法计算的方法、装置和算术逻辑单元, 属于数据处理领域。所述方法包括: 获取多个待计算的第一精度浮点数 (101); 对每个待计算的第一精度浮点数进行分解, 得到至少两个第二精度浮点数, 其中, 所述第二精度浮点数的精度低于所述第一精度浮点数的精度 (102); 确定各种由分解自不同的第一精度浮点数的两个第二精度浮点数组成的组合 (103); 将每种组合中的第二精度浮点数输入第二精度乘法器中, 得到每种组合对应的中间计算结果 (104); 基于每种组合对应的中间计算结果, 确定所述多个待计算的第一精度浮点数的计算结果 (105)。采用所述方法可以节省计算资源。