

CLAIMS

[Claim 1]

A pattern extracting apparatus extracting, from a plurality of items included in target information pieces, a
5 pattern of a combination of two or more of the items different from each other, comprising:

a first storing section storing the plurality of target information pieces;

a candidate pattern producing section producing
10 candidate patterns each formed of two or more of the items different from each other based on each of the items included in each of the plurality of target information pieces;

a candidate evaluation value calculating section
15 calculating an extraction evaluation value of the candidate pattern based on a frequency of appearance at which the produced candidate pattern appears in each of the plurality of target information pieces; and

a pattern extracting section determining any of the
20 candidate patterns having the calculated extraction evaluation value satisfying a predetermined threshold value and extracting the candidate pattern satisfying the threshold value,

further comprising:

a second storing section storing an association degree between the items,

wherein the candidate evaluation value calculating section identifies the association degree between the items included in the candidate pattern and calculates the extraction evaluation value based on a weight based on the identified association degree and the frequency of appearance, thereby allows the pattern extracting section to extract the pattern consisting of items having a relatively low association.

[Claim 2]

The pattern extracting apparatus according to claim 1, wherein the candidate evaluation value calculating section calculates the extraction evaluation value based on a definition in which, when an arbitrary candidate pattern p1 is a subset of an arbitrary candidate pattern p2, monotony is achieved such that the extraction evaluation value of the candidate pattern p2 is equal to or lower than the extraction evaluation value of the candidate pattern p1.

[Claim 3]

The pattern extracting apparatus according to claim 1 or 2, wherein the candidate evaluation value calculating section extracts the association degree between the items included in the candidate pattern from the second storing

section, subtracts the extracted association degree from a predetermined value, and uses the result of the subtraction as the weight.

[Claim 4]

5 A pattern extracting method of extracting, from a plurality of items included in target information pieces, a pattern of a combination of two or more of the items different from each other, the method comprising:

the step of storing the plurality of target
10 information pieces in a storage area;

the step of producing candidate patterns each formed of two or more of the items different from each other based on each of the items included in each of the plurality of target information pieces;

15 the step of storing an association degree between the items in a storage area,

the step of calculating an extraction evaluation value of the candidate pattern based on a frequency of appearance at which the produced candidate pattern appears in each of
20 the plurality of target information pieces; and

the step of determining any of the candidate patterns having the calculated extraction evaluation value satisfying a predetermined threshold value and extracting the candidate pattern satisfying the threshold value,

wherein the step of calculating the extraction evaluation value of the candidate pattern includes identifying the association degree between the items included in the candidate pattern and calculating the
5 extraction evaluation value based on a weight based on the identified association degree and the frequency of appearance.

[Claim 5]

A program causing a computer to perform functions, the
10 computer including a predetermined storage area storing target information pieces including a plurality of items and an association degree between the items, the computer performing pattern extraction processing of extracting a pattern of a combination of two or more of the items
15 different from each other existing in the target information pieces, the functions comprising:

the function of producing candidate patterns each formed of two or more of the items different from each other based on each of the items included in each of the
20 plurality of target information pieces;

the function of calculating an extraction evaluation value of the candidate pattern based on a frequency of appearance at which the produced candidate pattern appears in each of the plurality of target information pieces; and

the function of determining any of the candidate patterns having the calculated extraction evaluation value satisfying a predetermined threshold value and extracting the candidate pattern satisfying the threshold value,

5 wherein the function of calculating the extraction evaluation value of the candidate pattern includes identifying the association degree between the items included in the candidate pattern and calculating the extraction evaluation value based on a weight based on the
10 identified association degree and the frequency of appearance.