[CLAIMS]

[Claim 1]

A schedule creation assisting device comprising:

a storage unit that stores information on a total working time length in a specified period of each of workers who work in cooperation in a specified operation, a number of the workers necessary at each timing during the period, and a constraint condition regarding allocation of the workers to the operation; and

a computation unit that computes an Ising model in which, regarding an objective function including, as terms, the total working time length in the period, the number of necessary workers, and a constraint condition function that is minimized when the constraint condition is satisfied, whether each of the workers is to attend at work is set as a spin, and a sensitivity between variables of the constraint condition function is set as an intensity of interaction between the spins, wherein

the computation unit outputs, to a specified device, a schedule in which whether each of the workers is to attend at work at the each timing during the specified period is specified based on a result of the computation~~.~~; and

the schedule creation assisting device is a CMOS annealing machine that solves a combinatorial optimization problem regarding the Ising model.

[Claim 2]

The schedule creation assisting device according to claim 1, wherein

the computation unit

includes, in the terms of the objective function, the constraint condition function concerning at least one of an upper limit or a lower limit of continuous working time length, seeking to increase continuous work, and restricting

continuous work, which are the constraint conditions regarding continuous work, and computes the Ising model.

[Claim 3]

The schedule creation assisting device according to claim 1, wherein

the computation unit

includes, in the terms of the objective function, the constraint condition function concerning at least one of an upper limit or a lower limit of intervals of work timings, seeking to increase consecutive holidays, and restricting consecutive holidays, which are the constraint conditions regarding discontinuous work, and computes the Ising model.

[Claim 4]

The schedule creation assisting device according to claim 1, wherein

the computation unit

includes, in the terms of the objective function, the constraint condition function concerning at least one of prohibition of continuous work in a specified time slot and prohibition of work in a predetermined time slot immediately after working in the specified time slot, which are the constraint conditions regarding a prohibited pattern, and computes the Ising model.

[Claim 5]

The schedule creation assisting device according to claim 1, wherein

the computation unit

includes, in the terms of the objective function, the constraint condition function concerning at least one of seeking a state in which workers having specified attributes work at the same time or avoiding the state, which are the constraint conditions regarding the compatibility of workers,

and computes the Ising model.

[Claim 6]

The schedule creation assisting device according to claim 1, wherein

the computation unit

includes, in the terms of the objective function, the constraint condition function concerning seeking work shifts in a specified pattern, which is the constraint condition regarding workers' requests, and computes the Ising model.

[Claim 7]

The schedule creation assisting device according to claim 1, wherein

the computation unit

includes, in the terms of the objective function, the constraint condition function concerning seeking a state in which the work time length in each work pattern is equal between the workers, which is the constraint condition regarding equality between workers, and computes the Ising model.

~~[Claim 8]~~

~~The schedule creation assisting device according to claim 1, wherein~~

~~the schedule creation assisting device is a CMOS annealing machine that solves a combinatorial optimization problem regarding the Ising model.~~

[Claim ~~9~~8]

A schedule creation assisting method comprising:

by an information processing device including a storage unit that stores information on a total working time length in a specified period of each of workers who work in cooperation in a specified operation, a number of the workers

necessary at each timing during the period, and a constraint condition regarding allocation of the workers to the operation,

computing an Ising model in which, regarding an objective function including, as terms, the total working time length in the period, the number of necessary workers, and a constraint condition function that is minimized when the constraint condition is satisfied, whether each of the workers is to attend at work is set as a spin, and a sensitivity between variables of the constraint condition function is set as an intensity of interaction between the spins; and

outputting, to a specified device, a schedule in which whether each of the workers is to attend at work at the each timing during the specified period is specified based on a result of the computation~~.~~; and

the information processing device is a CMOS annealing machine that solves a combinatorial optimization problem regarding the Ising model.

[Claim ~~10~~9]

The schedule creation assisting method according to claim ~~9~~8, wherein

the information processing device

includes, in the terms of the objective function, the constraint condition function concerning at least one of an upper limit or a lower limit of continuous working time length, seeking to increase continuous work, and restricting continuous work, which are the constraint conditions regarding continuous work, and computes the Ising model.

[Claim ~~11~~10]

The schedule creation assisting method according to claim ~~9~~8, wherein

the information processing device

includes, in the terms of the objective function, the constraint condition function concerning at least one of an upper limit or a lower limit of intervals of work timings, seeking to increase consecutive holidays, and restricting consecutive holidays, which are the constraint conditions regarding discontinuous work, and computes the Ising model.

[Claim ~~12~~11]

The schedule creation assisting method according to claim ~~9~~8, wherein

the information processing device

includes, in the terms of the objective function, the constraint condition function concerning at least one of prohibition of continuous work in a specified time slot and prohibition of work in a predetermined time slot immediately after working in the specified time slot, which are the constraint conditions regarding a prohibited pattern, and computes the Ising model.

[Claim ~~13~~12]

The schedule creation assisting method according to claim ~~9~~8, wherein

the information processing device

includes, in the terms of the objective function, the constraint condition function concerning at least one of seeking a state in which workers having specified attributes work at the same time or avoiding the state, which are the constraint conditions regarding the compatibility of workers, and computes the Ising model.

[Claim ~~14~~13]

The schedule creation assisting method according to claim ~~9~~8, wherein

the information processing device

includes, in the terms of the objective function, the

constraint condition function concerning seeking work shifts in a specified pattern, which is the constraint condition regarding workers' requests, and computes the Ising model.

[Claim ~~15~~14]

The schedule creation assisting method according to claim ~~9~~8, wherein

the information processing device

includes, in the terms of the objective function, the constraint condition function concerning seeking a state in which the work time length in each work pattern is equal between the workers, which is the constraint condition regarding equality between workers, and computes the Ising model.

~~[Claim 16]~~

~~The schedule creation assisting method according to claim 9, wherein~~

~~the information processing device~~

~~is a CMOS annealing machine that solves a combinatorial optimization problem regarding the Ising model.~~