Definition of a group in SR-GC

Each group contains 3 workers,
They have the same rota options
But different skills.

Let W1 and W2 be a pair of workers which share a skill that no other worker has. If both workers decide to use rota # 0, neither worker is going to be present on the first week, and both workers are going to be present on the other weeks. This causes the range to be 0,2 -> bad!

If they choose different rotas,
one week will be occupied by W1,
another week by W2,
and the other week by both, so the range is 1, 2 -> better!

In other words, these workers act as nodes in a GC problem, since they need to be assigned to different values to obtain good fitness. Two nodes are connected if their corresponding workers share a skill that nobody else has. Therefore, the arrangement (A,B) (B, C), (C, A) represents a triangular clique. Other cliques will have skills (D, E), (E, F), (F, D) and so on.

Note that this approach generalises to any GC problem!
For n colours, we need rotas that are n weeks long and each worker will have n rota options.

I'm much prouder of this problem definition

Other settings

Day weights = [1, 1, 1, 1, 1, 1, 1]
W = 0

Worker name	Skills	Rota number	Rota Pattern
W_0	A, B	0	☐☐☐☐☐☐☐☑☑☑☑☑☑☑☑☑☑☑☑☑☑☑
		1	☑☑☑☑☑☑☑☐☐☐☐☐☐☐☑☑☑☑☑☑☑
		2	☑☑☑☑☑☑☑☑☑☑☑☑☑☑☐☐☐☐☐☐☐
W_1	B, C	0	☐☐☐☐☐☐☐☑☑☑☑☑☑☑☑☑☑☑☑☑☑☑
		1	☑☑☑☑☑☑☑☐☐☐☐☐☐☐☑☑☑☑☑☑☑
		2	☑☑☑☑☑☑☑☑☑☑☑☑☑☑☐☐☐☐☐☐☐
W_1	C, A	0	☐☐☐☐☐☐☐☑☑☑☑☑☑☑☑☑☑☑☑☑☑☑
		1	☑☑☑☑☑☑☑☐☐☐☐☐☐☐☑☑☑☑☑☑☑
		2	☑☑☑☑☑☑☑☑☑☑☑☑☑☑☐☐☐☐☐☐☐

Definition of a group in SR-RR

Each group contains 4 workers, all having the same skill.
Each worker has 2 rota options,
with the first one being to work for one week,
and the second one is empty

Other settings

Day weights = [1, 1, 1, 1, 1, 1, 1]
W = 0

Worker name	Skill	Rota number	Rota Pattern
W_0_A	A	0	☐ ☐
		1	☑ ☑ ☑ ☑ ☑ ☑ ☑ ☐
W_1_A	A	0	☐ ☐
		1	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
W_2_A	A	0	☐ ☐
		1	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
W_3_A	A	0	☐ ☐
		1	☐ ☑ ☑ ☑ ☑ ☑ ☑ ☑

Definition of a group in SR-TP

NOTE: this problem was not used in the paper
but it might be useful in the future.

This follows the behaviour of twin peaks (the problem
where the optima for a group is 0000 and 1111 instead of ju

This was not used in the paper due to lack of space,
and because it's slighltly redundant with GC.

Each group is of 4 people, and if they all choose the same
the fitness is good.

Other settings

Day weights = [1, 1, 1, 1, 1, 1, 1]
W = 0

Worker name	Skills	Rota number	Rota Pattern
W_0	A	0	☑ ☑ ☑ ☐ ☐ ☐ ☐
		1	☐ ☐ ☐ ☑ ☑ ☑ ☐
W_1	A	0	☑ ☑ ☑ ☐ ☐ ☐ ☐
		1	☐ ☐ ☐ ☑ ☑ ☑ ☐
W_2	A	0	☑ ☑ ☑ ☐ ☐ ☐ ☐
		1	☐ ☐ ☐ ☑ ☑ ☑ ☐
W_3	A	0	☑ ☑ ☑ ☐ ☐ ☐ ☐
		1	☐ ☐ ☐ ☑ ☑ ☑ ☐