

1) $(1 - 4) \Rightarrow \text{colour A} \Rightarrow 1$ (represents A at Position 1)
 $\Rightarrow 2$ (represents A at Position 2)

$(5 - 8) \Rightarrow \text{colour B}$

$(9 - 12) \Rightarrow \text{colour C}$

$(13 - 16) \Rightarrow \text{colour D}$

$(17 - 20) \Rightarrow \text{colour E}$

$(21 - 24) \Rightarrow \text{colour F}$

$(25 - 28) \Rightarrow \text{colour G}$

$(29 - 32) \Rightarrow \text{colour H}$

Constraints for part 1:

(i) No two colours are at single position at a time.

eg: $1, 5 \Rightarrow$ not possible since
 $1 \Rightarrow \text{A at first position}$
 $5 \Rightarrow \text{B at first position}$

$1, 6, 11, 16 \Rightarrow$ possible

$1 \Rightarrow \text{A at position 1}$

$6 \Rightarrow \text{B at position 2}$

$11 \Rightarrow \text{C at position 3}$

$16 \Rightarrow \text{D at position 4}$

(ii) No repetition of colours is possible

eg: $1, 2, 3, 4 \Rightarrow$ not possible since
all position are filled with colour A

$1, 6, 11, 16 \Rightarrow$ possible since
different colours.

constraint for part 2 ?

(i) No two colours are placed at single position.

eg: 1, 5, 9, 13 \Rightarrow not possible

1 \Rightarrow A at position 1

5 \Rightarrow B at position 1

9 \Rightarrow C at position 1

13 \Rightarrow D at position 1

1, 2, 3, 4 \Rightarrow possible

1 \Rightarrow A at position 1

2 \Rightarrow A at position 2

3 \Rightarrow A at position 3

4 \Rightarrow A at position 4

Here Repetition is allowed, so only one constraint is enough.