- Signature: color(v,c)
- r0 for color(0, Red)
- b0 for color(0, Blue)
- r1 for color(1, Red)
- b1 for color(1, Blue)

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1. Each vertex must be colored :
   - Vertex 0:
   - $r0 \vee b0$
   - Vertex 1:
   - $r1 \vee b1$
2. Each vertex must not be colored with more than one color:
   - Vertex 0:
   - $\neg r0 \vee \neg b0$
   - Vertex 1:
   - $\neg r1 \vee \neg b1$
3. Adjacent vertices must not be colored with the same color:
   - Since vertices 0 and 1 are connected and must not share the same color:
     - $\neg(r0 \wedge r1)$ (They cannot both be Red)
     - $\neg(b0 \wedge b1)$ (They cannot both be Blue)

1. Each vertex must be colored with one color:
   - $\{r0, b0\}$
   - $\{r1, b1\}$
2. Each vertex must not be colored with more than one color:
   - $\{\neg r0, \neg b0\}$
   - $\{\neg r1, \neg b1\}$
3. Adjacent vertices must not be colored the same:
   - $\{\neg r0, \neg r1\}$
   - $\{\neg b0, \neg b1\}$

{{r0,b0},{r1,b1},{¬r0,¬b0},{¬r1,¬b1},{¬r0,¬r1},{¬b0,¬b1}}

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p   cnf  4  6
1   2   0
3   4   0
-1  -2   0
-3  -4   0
-1  -3   0
-2  -4   0
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c MergeSAT - Norbert Manthey, 2023.
s SATISFIABLE
v 1 -2 -3 4 0
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Given the assignments:

Vertex 0 is colored Red (r0 is true, b0 is false).
Vertex 1 is colored Blue (r1 is false, b1 is true).