Name: <Haitham Babbili>
Personal number: <19880803-4915>

Question 2:

2.a.i : The node Pi in S will take a colore deferent than the nighbers nodes colors in S form the group of color so we need tow or max three colore if the nodes numbees is odd then look in nood in P\S, where they do te same and finde the node whci has the same colore to match with.

2.a.ii : The rout will be from S to P\S

2.a.iii : After mayching occoures the Pi will ask for syunch and get ack , then Pi sen Synch AK and send the message then Pj will replay

2.b.i : Self-stabilizing Vertex coloring in chapter 2, also Self-stabilizing Maximum Matching in chapter 2.9.

2.b.ii : Yes it solve vertex color matching, Since this algoritem (Maximum Matching) has the appility to find the maxiumal in ever set and the maxium also, It has the algorithem to define the match node and single ndes, free node, chain noodes, and the wating nodes to match.

- Matching haben when Pi in S peck to Pj in P\S and Pj in P\S peck to Pi in S.
- Wating node when Pi in S peck to Pj in P\S and Pj in P\S peck to no one.
- Chain noode when Pi in S peck to Pj in P\S and Pj in P\S peck k, k!=Pi.
- Free node when Pi in S peck to no oneand Pj in P\S peck no one.
- Single node when Pi in S peak to no one and Pj in P\S peck k, k!=Pi.

2.b.iii :

2.c.i :

2.c.ii :

2.c.iii :