Proof: • Suppose no student will have both neighbors as boys. We will pro
we either won't have 25 boys or we won't have 25 girls.

• Suppose we have 25 boys. Arbitrarily arrange them around a table.
Name them $B_1 - B_2 - B_3 - \ldots\ldots - B_{25} - B_1$.

• Suppose we have a set of girls. To satisfy neighborhood condition, pick two arbitrary girls from the set, name them G_1, G_2 and place them in the following manner: $\boxed{B_1 G_1 G_2 B_2}$

• Pick a girl, name it G_3, place it like this: $B_3 G_3 B_4$. (Neighborhood condn. unsatisfied)

• Again pick a girl, name it G_4, place it like this: $\boxed{B_3 G_3 G_4 B_4}$.

• Continue in this manner until we place G_{23}, G_{24} like this:

$\boxed{B_{23} G_{23} G_{24} B_{24}}$

• B_{25} has still two boy neighbors in B_{24} and B_1.

• Pick two arbitrary girls G_{25}, G_{26}, place them in this manner:

$\boxed{B_{25} G_{25} G_{26} B_1}$

$\therefore$ To satisfy neighborhood condn, we must have atleast 26 girls if we have 25 boys.

• Suppose we have 25 girls. Arbitrarily arrange them around a table.
Name them $G_1 - G_2 - G_3 - \ldots\ldots - G_{25} - G_1$

• We will try to maximize no. of boys.

• Repeating above used technique:

$\boxed{G_1 B_1 B_2 G_2}\ \boxed{G_3 B_3 B_4 G_4} \ldots\ldots\ \boxed{G_{23} B_{23} B_{24} G_{24}}\ G_{25}\ G_1$

$\therefore$ We can have maximum 24 boys.

(Not very rigorous argument)