# Correctness

Well, correctness of my algorithm depends upon various factors

- n Class rooms
- h Daily working hours
- K courses
- X classes

We have availability matrix with 5*h. 5 is the working days of the week. Lectures is the product of X and K or some of all classes of all the courses.
Say we have 7 working hours daily so, we can have maximum of 7*5 or 35 lectures in a week.! So, to exceed the number 35 we have to increase n or the number of classrooms.

On the other hand, if we have to arrange 15 lectures with 2 working hours and 1 class room, then this also not possible because we can have 5*2 or 10 lectures in week!

**So we can have maximum of n*working hours*working days** lectures in a week.
If we have sufficient rooms and working hours of all the courses combined, the correctness of our algorithm would be **100%.**

# Complexity Analysis

If we have more lectures such that (lectures > working days x working hours) then as that of our algorithm we have to do the same scheduling for other class rooms also.
**BEST CASE:** If we have lectures or sum of classes less enough as that of one room or (lectures < working days x working hours), then we have **linear time** complexity e.g. 5**n** or $\Omega$(**n)**
**WORST CASE:** Suppose we can't schedule our classes in one room then our time complexity would be 5nh or O(nh) where n is the number of classrooms to be used and h are the working hours.