class Solution:

def insert(self, intervals: List[List[int]], newInterval: List[int]) -> List[List[int]]:

result = []

for interval in intervals:

# the new interval is after the range of other interval, so we can leave the current interval baecause the new one does not overlap with it

if interval[1] < newInterval[0]:

result.append(interval)

# the new interval's range is before the other, so we can add the new interval and update it to the current one

elif interval[0] > newInterval[1]:

result.append(newInterval)

newInterval = interval

# the new interval is in the range of the other interval, we have an overlap, so we must choose the min for start and max for end of interval

elif interval[1] >= newInterval[0] or interval[0] <= newInterval[1]:

newInterval[0] = min(interval[0], newInterval[0])

newInterval[1] = max(newInterval[1], interval[1])

result.append(newInterval);

return result