Instructions:

* Replace the highlighted areas in yellow above with your own name, section and group numbers and correct dates,
* Watch the corresponding lab demo videos, review related materials from lecture notes and Lab manual,
* Provide your best answers to the following questions below. Add pages as needed,
* Convert this Word answer sheet into pdf format and submit to Canvas.

1. (10 points) Describe stress concentration in your own words.
2. (10 pts) Define the stress concentration factor as is used in this course.
3. (10 pts) To your best knowledge, why there are so many holes/cutoffs in the wing structure as seen on page 2 of the lecture notes?

Total 30 points

Answers:

1. Stress concentration is a point in your structure where the stress is higher compared to the rest of the structure. Stress concentration happens in holes, sharp corners, notches…
2. Stress concentration factor = (maximum stress) / (nominal stress)
3. The existence of holes in the ribs enhances the buckling strength of it. It also minimizes the total weight of the aircraft.