1. List two to four **Desired Needs** of your project that led to your final design objectives.
   Answer in two to four bullet points or concepts within a sentence or two.
   - Maintain viability of organoids while successfully sorting them
   - Lack of consistency among organoids used in various experiments
   - Manual sorting of organoids is biased and time consuming
2. List the major **Constraints** on your design/project
   a) Safety/Regulatory Affairs
   - No pressure build up to limit injury if device were to rupture
   - Seal device to ensure minimal leakage of fluid onto users

   b) Risks
   - Organoid shearing, Inaccurate sorting leads to flawed experiments, User error damages organoids

   c) Global Impact
   - Allows for reproducible research among labs working with organoids
   - Improve experimental outcomes for the benefit of future patients

   d) Manufacturability
   - Accessible components, Inexpensive

   e) Quality Control/Marketability
   - Documentation of design process, Easy to reconstruct with various testing specifications

3. List the major **Engineering Standards** on your design/project
   a) affected the components used in the device, and/**or**
   b) standards that constrain the device and its performance, and/**or**
   c) standards that could be developed from your project
   - ISO 22916: Requirements for dimensions, classification, and connections of microfluidic devices
   - ISO 10993-1: Requirements for assessment of safety of medical devices
   - ISO 13485: Quality management systems for medical devices

4**.** Explain **Ethical, Environmental, or Societal concerns** for practical applications of your project.
A main ethical concern is that the device could potentially sort brain organoids incorrectly, therefore skewing results of experimental studies. The device could make such a mistake and affect downstream patient outcomes. Otherwise, environmental and societal concerns are minimal.

5. Describe **Active Teamwork** and **Leadership** in your design group
   a) **collaboration** and inclusion of diverse opinions?

Our team collaborated well and ensured that every group member contributed.

   b) **delegation** of leadership on subprojects?

Leadership of subprojects was delegated and sometimes shifted to ensure everyone had ample opportunity to contribute.

   c) establishing and reaching **goals and deadlines**?

Goals and deadlines were established in group meetings and agreed upon by our advisor.

   d) received or given **constructive feedback**?

Constructive feedback was often given throughout meetings where group members would present progress on their subprojects. This feedback was used to improve each subcomponent.

6. What were the most significant motivating factors that led you to
   a) acquire **new knowledge**
   b) be **self-initiating**
   c) **persist** against challenges and setbacks.

Our mentor motivated us in meetings to educate ourselves so that we could make informed decisions. The opportunity to have freedom in designing our device motivated us to individually push ourselves. Motivation from the group motivated us to persist even when setbacks were apparent.

7. What are your most **innovative and/or entrepreneurial ideas** for this project
Our most innovative idea is to make our device very inexpensive and portable, even allowing for fabrication by other labs. This makes it much more accessible to many labs compared to current alternatives while also addressing space constraints that often arise in the lab.