Classic and Research Genomics Assignment #6
From Lecture_11-12 (April 17th): Genotyping and Cancer Genomics

Assignment: Answer questions about Genomics and Clinical Applications
Due Date: 2:30PM on April 30th

1. A colleague in the lab has identified a new somatic mutation in a novel gene in breast cancer, and wants to know if it can be used clinically. How would you approach evaluating this new mutation as a potential biomarker, and what approaches can be used to test for this mutation in the clinic?

2. A genomics company wants to subsidize genome sequencing in cancer patients at your center. However you have been developing a test for the 5 most clinically relevant genes which is nearly ready to go. What is the best approach to provide genomic analysis of clinical utility to patients? What are the risks, benefits, and concerns?

3. What is the difference between precision and accuracy?

4. How does this apply in the case of exome and whole genome sequencing?

5. On a related note, please explain what you learned regarding false negatives and false positives, and how this relates to sensitivity and specificity for any clinical test?