1. What is the difference between a spreadsheet and a database?
   1. A spreadsheet is a user-friendly software that allows for data entry and manipulation. Users can organize data in grids of rows and columns, perform calculations, and apply other data analysis tools. Spreadsheet software is best suited for smaller data sets, due to it’s limited data capacity, performance and data integrity controls. On the other hand, database software is designed in such a way that it is very ideal and useful for larger sets of data. Database software can store vasts amounts of data, maintain data integrity, and provide powerful tools for data querying and reporting. They are capable of creating relationships between different data elements, which is especially useful in healthcare.
2. What are the advantages and disadvantages of using a spreadsheet for health data management?
   1. Some advantages of using a spreadsheet for health data management are that it is very user friendly and allows users to easily enter data manually, perform calculations, create charts and visualize data. It also implements tidy data principles into many of it’s tools. Further, spreadsheet software packages save files in unique sile formats that add additional features to the spreadsheet. Spreadsheet files are able to be exported as CSV files, which contain only the data in the spreadsheet, and have four main advantages: universality and compatibility, simplicity, size, and it’s import/export format compatibility. The main disadvantages include that spreadsheet software cannot handle vastly large sets of data, it haas limited user capacity that the files typically need to be converted to be compatible with certain data analysis tools.
3. What are the advantages and disadvantages of using a database for health data management?
   1. The advantages of using a database for health management include that they are capable of providing clinical decision support, research support, public health reporting, patient care management, and aid health policy development. Databases can store vast amounts of data, more than a spreadsheet can, and databases are able to create tables and demonstrate the relationship between tables, while giving multiple users access to the database. That being said, databases can help healthcare organizations improve patient care, reduce costs, and increase efficiency while maintaining data security. As for the disadvantages of using a database for health data management, the creation of a database takes time and effort and learning how to properly use a database is a complex process.
4. What are some examples of tasks that can be performed using a spreadsheet?
   1. Examples of tasks that can be performed using a spreadsheet include data entry, data organization (into cells placed in rows and columns), data analysis tools, mathematical calculations, the creation of charts and graphs and data visualization.
5. What are some examples of tasks that can be performed using a database?
   1. Tasks that can be performed using a database include storing large datasets, creating charts and tables, demonstrating the relationship between multiple charts and tables, as well as database normalization and denormalization.
6. What are some examples of tasks that can be performed using both a spreadsheet and a database?
   1. Tasks that can be performed using both a spreadsheet and a database include data entry, data manipulation, various data analysis, data visualization, and cleaning up of data.
7. What are some examples of tasks that can be performed using neither a spreadsheet nor a database?
   1. Neither a spreadsheet or database are capable of real-time data processing. While both are extremely useful tools, they do not provide instant real time analysis, and require manual entry of data and manual instructions.
8. What are some examples of tasks that can be performed using a spreadsheet but not a database?
   1. Examples of tasks that can be performed using a spreadsheet but not a database are small scale data management, simple mathematical calculations, individual or small group projects, an the creation of charts and graphs without a need for higher level database reporting.
9. What are some examples of tasks that can be performed using a database but not a spreadsheet?
   1. Some examples of tasks that can be performed using a database but not a spreadsheet include large/complex data management, multi-user capacity, stronger security, stronger data integrity measures, creation of tables, reports of findings of relationships between tables, and data normalization and denormalization.
10. What are some examples of tasks that can be performed using both a spreadsheet and a database?
    1. Tasks that can be performed using both a spreadsheet and a database include data entry, data manipulation, various data analysis, data visualization, and cleaning up of data. Though the extent of the capacity and capabilities of these tasks will vary depending on the chosen software (database or spreadsheet).