The GIS 20: Essential Skills is a well-structured practical book for new, entry-level, and experienced Geographic Information System (GIS) users covering basic skills including, finding and editing data, querying GIS maps, creating and sharing reports, and publishing maps.

The introduction part of the book has the instructions on downloading and installing ArcGIS desktop software and chapter data files. Twenty chapters in this book covers data collection, organization, and storage (shapefiles, projections, attribute tables, queries) data analysis (geocoding, geodatabases, reports) and data visualization (publishing and sharing maps).

The book covers key terms in the use of ArcGIS such as shapefiles, excel spreadsheets, and map projections. In Chapter 1, the author explains shapefiles, ArcMap interface, and essential tools to familiarize users with the program. Chapter 2 focuses on key elements of creating maps and layouts by working with layers, changing colors, creating labels, layouts and legends, and creating titles, using scale bars and north arrows. Chapter 3, Projecting Shapefiles, starts with a brief summary on understanding the basics of projections. In the application part, State Plane Coordinate System (SPCS) and Universal Transverse Mercator (UTM) are used. The author compares the two projections by creating a map of the USA. This example gives the user a better sense of different projections.

After covering the key terms, the author guides the reader by introducing basic concepts. Chapters 6 and 9 , Creating Thematic and Creating a Categorical Maps focus on the visualization of written information.

Geocoding, another important skill is covered in detail in Chapter 8, gives the user the necessary skills to map anything with a physical location on a map. This chapter also covers address locators, auto and manual geocoding which gives the user the ability to convert non-spatial data into spatial. Chapter 10 explains the Global Positioning System (GPS) Point Mapping which is another method to generate addresses in GIS using latitude and longitude. Since our world is moving towards more practical and technological ways to collect data this chapter has significant importance.

Chapter 11, Editing, guides the user towards editing tasks such as changing boundary outline and creating shapefiles. This chapter also gives the user the chance to work with and understand vector data. Use of raster data is introduced later in Chapter 17, Working with Aerial Photography. Since the book uses both raster and vector data for various application it gives the user the chance to compare and see which data format is better for various applications.

Chapters 12, Creating Attribute Queries and 13, Creating Location Queries cover writing and erasing queries and creating new shapefiles based on query results. These chapters clearly explain the difference between attribute and location queries.

Chapter 14 covers GIS power tools for geoprocessing to manipulate spatial data such as buffer, merge, union, append, clip and dissolve. Chapter 15 explains explains ArcCatalog and creating
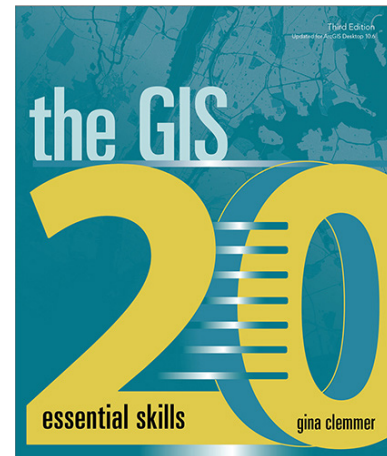
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and working with geodatabases. It also covers the strengths of geodatabases and how they can make GIS data easier to manage and access.

Chapter 16 covers combining two shapefiles (and their data and tables) using spatial join function which is a very useful function that saves users time.

Chapter 18, Creating and Exporting Reports in ArcGIS and Chapter 19, Sharing Work using layer, map, and geoprocessing packages are guiding users to create and share reports and maps.

Chapter 20 covers publishing maps using ArcGIS online and creating geo-enabled PDFs to share GIS work with other GIS users. ArcGIS online is a popular cloud-based mapping and analysis solution hosted by ESRI which allows users to make maps, analyze data, and to share.

The twenty chapters mentioned above cover important materials and key points in GIS to guide the user through the learning process. Since instructions are supported by figures, tables, maps, and screenshots content is easy to follow. Overall, The GIS20: Essential Skills is a comprehensive, well-organized self-learning book presenting instructions on how to perform widely used 20 skills needed to successfully use ArcGIS Desktop software.