1: Basic tools of Map info professional (show us each of them and review them)

Map Window: The main workspace where you view and interact with maps.

Layer Control: Allows you to manage map layers

Symbology and Styles: Options for changing colors, line styles, and fill patterns of map features.

Labeling: Add labels to map features and control their styles and placement.

Table Editor: View, edit, and analyze tabular data

Data Import/Export: Bring in data from different formats (e.g., Shapefiles, Excel spreadsheets) or export data to share with other applications.

Joining and Relating Tables: Combine data from different sources by linking common fields.

Data Querying: Select specific features or records based on attribute values or spatial criteria.

2: File creation, tab file and it's features, workspace, its creation and management;

File Creation: File, New, Choose the appropriate file type.

TAB Files: are the native file format of MapInfo Professional.

Their Features: can contain various data types, support different attribute data formats, can have associated thematic properties, and store projection information.

Workspace Creation and Management: A workspace is a collection of related files, including tables, maps, layouts, and other resources, organized in a hierarchical structure.

Creation: File, New Workspace, specify the workspace name and location.

Management: includes functions such as opening, saving, and closing workspaces, as well as organizing and arranging files within the workspace hierarchy.

3: Connecting the raster image to the coordinate grid, selecting the projection, registering the raster map and correcting errors;

selecting the projection: Raster, Coordinate System Manage, Dialog box, select the appropriate projection for the raster image

registering the raster map: Raster, Open, align the raster image with known geographic features

 correcting errors: visually inspect it to check for any remaining misalignment or distortions >> If you notice errors or discrepancies, you can use additional georeferencing or rectification techniques to refine the registration and correct any remaining issues.

4: Creating a database ; Table structure, its elements , addition and categorization of tables;

  Go to Table, New table, Enter table name, defining fields (floats, character, etc..) then name the file and save it

Elements of table structure is (Add data to the field)

Addition tables: Table, Add table

Categorizing of table: Table list, right click on a table, select Table Categories.

5: Layer control panel, working with explorer, arranging and managing layers ;

  Go to explorer, you will find two windows (Cosmetic and Table layer), Above there is two buttons (Add and Remove layers) and in every layer you will find three icons to edit table, select table, automatic tables.

6: Use of topographic maps, use of online built\_in bases (Bing areal, Hibrid , Geo map streets, Road) in the digitization process

  Go to Table, Map, Table, choose file.

Go to Map, open and then you will find the options (Bing areal, Hybrid, Geo map streets, Road).

7: Digitization process, Creation of map of point objects, selection of conditional signs, management, creation of cartographic image using point objects . calculating location

   using X & Y coordinates.

- Digitization of Point Objects: Go to Spatial, style, format style, choose font, choose symbol & color, click ok after you start drawing your map.

- Creation of map of point objects: Go to Spatial, click on the select button, double click on the map, and click ok.

-Selection of Conditional Signs: In the table containing the point objects, use queries or filters to select specific points based on attribute values, apply conditional signs or symbology to the selected points to visually differentiate them from others.

-Management of Point Data: Table Editor >> you can add or modify attribute values, perform calculations, apply filters, etc.

- Creation of Cartographic Image: Go to Map, options, display coordinates, change coordinate units to degrees and click ok, then go to insert, choose a spot on the map, double click on the spot that you selected, and the coordinated window will pop up.

8. creating greed using automated and custom cartographic tools

Automated Grid Creation: Layout Designer, add map frame or select an existing map frame, "Map" tab in the Ribbon "Create Grid" tool, Specify the grid parameters.

Custom Grid Creation:  Layout Designer, add map frame or select an existing map frame, use the line or shape drawing tools to manually draw grid lines, adjust the position, spacing, and orientation of the grid elements according to your requirements, customize the appearance.

9. creating a map of linear objects, selecting, and managing linear conditional marks, creating a cartographic image using linear objects, calculating lengths using a simple method

-New table, define structure, digitize lines on the map using the drawing tools, use queries or filters to select specific lines based on conditional criteria, Apply conditional marks or symbology, Conditional marks can be different (line colors, line styles, line widths, etc.)

- Creating a Cartographic Image: Open Layout Designer, add map frame and customize it, adjust map scale, Enhance the map's visual appearance by adding additional cartographic elements.

- Calculating Lengths: use the MapInfo tool called "Easy Length Calculator". Open table, Table Window, select the lines, “Tools” menu, select "Easy Length Calculator".

10. Creating a map of areal objects, selecting, and managing area conditional signs, creating a

cartographic image using areal objects, calculating areas using a simple method

Creating a map of areal objects: Create new table, define table structure, use the drawing tools in MapInfo to digitize polygons on the map.

Selecting and Managing Area Conditional Signs: To select, use queries and filters.

Apply area conditional signs or symbology to the selected polygons, they can be different fill colors, patterns, etc.

Creating a Cartographic Image: Layout Designer, add map frame, adjust map scale, add additional cartographic elements to enhance the map’s visual appearance.

Calculating Areas: Open table, Table Window, select the polygons, “Tools” menu, select "Easy Area Calculator".

11. The use of labels and fonts and creation of mixed geoimages, it is management under conditions of

Different scales and thematic information

Labels are used to display text information associated with map features such as points, lines, or polygons.

Customize the fonts used for labeling and other textual elements in your map, choose fonts that are clear, legible, and appropriate for the map content.

Management under conditions of different scales and thematic information: you can produce visually appealing and informative mixed geoimages in MapInfo Professional.

12. Use snap, set largest, Erase, spilt options to edit the image during the digitalization process

-Go to Spatial, click the select button and then select the drawing that you did, click on combine

To edit we can select the drawing and then press ctrl+R then we can edit it.

13. Table options, it is change, adding information, calculation of exact distances, areas, and basics of statistical processing

Changing Table Structure: Add or remove fields/columns, rename fields, change data types.

Adding Information: Inserting rows/records, populating fields.

Calculation of Exact Distances: Use spatial analysis tools within GIS software to calculate distances between points, lines, or polygons.

Calculation of Exact Areas: Calculate the area of polygons using algorithms specific to the projection and coordinate system of the data.

Basic Statistical Processing: Summarizing data, filtering, and querying, and joining or relating tables.

14.data bank management arrangement and sorting of information for calculation and thematic mapping

Data Sorting and Filtering: Sort the data based on your requirements, Apply filters to extract subsets of data based on specific criteria.

Data Collection and Organization: Gather all relevant data from various sources, Identify the variables or attributes you need for your calculations and thematic mapping, and create a logical structure for organizing the data.

Data Cleaning and Validation: Clean the data to remove any inconsistencies, errors, or missing values, and validate the data to ensure its accuracy and reliability.

15.compilation of thematic map preparation of cartograms create thematic maps options

-Choose the appropriate thematic mapping methos, select the attribute data you want to represent on the map, Determine the classification method, Customize the appearance of the thematic map, Consider adding additional cartographic elements.

- Preparation of Cartograms: Labeling, layer control, query and selection, Map Layout and Printing, Map Projection and Coordinate Systems.

16.create thematic map, preparation carto diagrams, create thematic map options

-Go to Map and select Create Thematic Map, Dialog box appears, select table, choose the attribute from the “value” menu, Select the thematic mapping method that suits your data: such as Graduated Symbols, Graduated Colors, Proportional Symbols, Dot Density, etc., Customize the appearance by modifying colors, symbols, and labels. Preview the map by clicking on the "Preview" button, click on the "Create Map" button to generate the thematic map.

17.layout and management of labels on the thematic map, selection of style, size and location, label option

-Go to the "Map" menu and select "Label Setup.", In the "Label Setup" dialog box, you'll find various options to configure the appearance and placement of labels (Label Styles, Label Placement, Label Size and Orientation, Label Collision Detection, Label Expression, Label Filtering)

18.changing forms, using universal translator option, converting Esri products and converting tab files to Esri format compatible file

Changing forms: Reshaping Objects, Creating New Objects, Buffering, Splitting and Merging Objects.

To use the Universal Translator: Tools menu, Universal translator, Dialog box, specify the source and destination file formats, Configure any additional settings or options based on your specific conversion requirements. >> Click on the "Translate" button to start the conversion process

converting Esri products and converting tab files to Esri format compatible file: Same steps as universal translator, but select TAB file as source file and choose the Esri Shapefile format as the destination.

19.using the layout option when creating a thematic map, it is varieties and the advantage of each

20.  complication of map compaction, decoration, and graphic design and graphic design processing, place legend and other cartographic elements (scales, orientation of horizon sides)

Map Compaction: involves optimizing the layout of map elements to effectively use space and minimize clutter.

Decoration: includes adding non-essential visual elements to enhance the appearance and visual appeal of the map.

Graphic design techniques: can be applied to maps to improve their visual communication.

Graphic design processing: Utilize professional graphic design software.

Placement of Cartographic Elements:

* Scale Bar: Position the scale bar in a visible and uncluttered area.
* Orientation of Horizon Sides: Indicate the orientation of the map (e.g., north arrow) and the direction of geographic features to provide spatial reference.