* **Tools for Data Mining**
* **Spreadsheets**

1. Hosting data that has been exported from other systems in an easily accessible and easy-to-read format.
2. Creating pivot tables to showcase specific aspects of your data
3. Drawing comparisons between different sets of data
4. Excel add-ins (Data Mining Client, XLMiner, KnowledgeMiner) allows you to perform common mining tasks such as classification, regression, association rules, and model building.

* **R-language**

Using R libraries you can perform data mining operations such as: Regression, Classification, Data Clustering, Association Rule Mining, Text Mining, Other Detection, Social Network Analysis

* **tm** – A framework for text mining applications within R
* **twitteR** – A framework for mining tweets

RStudio is a popularly used open-source IDE for working with the R programming language.

* **Python**
* **Pandas**
* Open-source module for working with data structures and analysis
* Allows you to upload data in any format and provides a simple platform to organize, sort, and manipulate data.
* **NumPy**
* A tool for mathematical computing and data preparation in Python
* Offers a host of built-in functions and capabilities for data mining
* **Jupyter Notebook**
* **IBM SPSS Statistics**

SPSS stands for Statistical Process for Social Sciences

1. Popularly used for advanced analytics, text analytics, trend analysis, validation of assumptions, and translation of business problems into data science solutions.
2. Is closed source
3. Requires a license for use
4. Has an easy to use interface
5. Requires minimal coding for complex tasks
6. Has efficient data management tools
7. Is popular because of its in-depth analysis capabilities and accurate data results.

* **IBM Watson Studio**

1. Is available through a web browser on the public cloud, private cloud, and as a desktop app.
2. Enables team members to collaborate on projects
3. Includes SPSS Modeller flows that enable you to quickly develop predictive models for your business data.

* **SAS**

SAS Enterprise Miner is a comprehensive, graphical workbench for data mining.

1. Provides powerful capabilities for interactive data exploration
2. Can manage information from various sources, mine and transform data, and analyze statistics.
3. Offers a graphical user interface for non-technical users

With SAS, you can:

* Identify patterns in the data using a range of available modeling techniques
* Explore relationships and anomalies in data
* Analyze big data
* Validate the reliability of findings from the data analysis process
* **Visualization and Dashboarding Software**
* **Spreadsheets**

1. Most commonly used software for graphical representations of data sets
2. Easy to learn
3. Documentation and video tutorials for ready reference

* Excel
* Provides several chart types ranging from the basic bar, line, pie, and pivot charts, to the more advanced options such as scatter charts, trendlines, Gantt charts, waterfall charts, and combination charts
* Provides recommendations on the best visual representation for your data set
* Can add a chart title, change colors of the elements, and add labels to data
* Google Sheets
* Offer a wide range of charts
* Suggests visualization best suited for your data set
* Preferred over Excel for its collaboration features
* **Jupyter Notebook and Python libiaries**
* Matplotlib
* Widely used Python data visualization library
* Provides different kinds of 2D and 3D plots and the flexibility to create plots in several different ways
* Help create high-quality interactive graphs and plots with just a few lines of code
* Has a large community support and cross-platform support as it is an open-source tool
* Bokeh
* Provides interactive charts and plots
* Delivering high-performance interactivity over large or streaming datasets
* Offers flexibility for applying interaction, layouts, and different styling options to visualization
* Can transform visualizations written in some of the other Python libraries, such as Matplotlib, Seaborn, and Ggplot
* Dash
* A Python framework for creating interactive web-based visualizations
* Highly interactive web applications using Python code
* Does not require knowledge of HTML and JavaScript
* Is easily maintainable, cross-platform, and mobile-ready
* **R-Studio and R-Shiny**

Using R-Studio, you can create:

* Basic visualizations such as histograms, bar charts, line charts, box plots, and scatter plots
* Advanced visualizations such as heat maps, mosaic maps, 3D graphs, and correlograms

**Shiny** is an R package that helps build interactive web apps that you can host as standalone apps on a webpage.

* **IBM Cognos Analytics**

IBM Cognos Analytics is an end-to-end analytics solution.

1. Importing custom visualizations
2. A forecasting feature that provides time-series data modeling and forecasts based on data presented in corresponding visualizations
3. Recommendation for visualizations based on your data
4. Conditional formatting which allows you to see the distribution of your data and highlight exceptional data points

Cognos is known for its superior visualizations and overlaying data on the physical world using its geospatial capabilities.

* **Tableau**

Tableau is a software company that produces interactive data visualization products.

1. create interactive graphs and charts in the form of dashboards and worksheets, with drag and drop gestures
2. Publish results in the form of stories
3. Import R and Python scripts

* **Microsoft Power BI**

Power BI is a cloud-based business analytics service from Microsoft that enables you to create reports and dashboards.

1. A powerful and flexible tool known for its speed and efficiency
2. Has a drag and drop interface
3. Is compatible with multiple sources, including Excel, SQL Server, and cloud-based data repositories
4. Provides the ability to collaborate and share customized dashboards and interactive reports securely