

# 1.1. Browsing, Searching, and Filtering Data, Information, and Digital Content

## *Description:*

- *To articulate information needs, to search for data, information and content in digital environments, to access them and to navigate between them.*
- *To create and update personal search strategies.*

## **Introduction**

In today's digital age, the ability to efficiently browse, search, and filter data, information, and digital content is essential. Whether you are a student, a professional, or just a curious individual, mastering these skills can save time and improve the quality of the information you find.

We will present the lesson using simple and easy-to-understand examples. This approach will make it easier for you to grasp the concepts and remember them more effectively. While it might seem like some examples are repetitive, each one is designed to help consolidate your new knowledge. This method ensures you can effectively apply what you've learned in real-life situations.

## **Learning Objectives**

1. Understand the basics of browsing the internet and using search engines.

2. Employ advanced search techniques to find specific information quickly.
3. Use various filters and tools to refine search results.
4. Evaluate the credibility and relevance of online information.
5. Utilize digital tools to organize and manage digital content.

*In the last lesson, you will find self-study materials.*

 **Understand the basics of browsing the internet and using search engines**

 **Employing Advanced Search Techniques**

 **Use various filters and tools to refine search results.**

 **Evaluate the credibility and relevance of online information.**

 **Utilize digital tools to organize and manage digital content.**

# Understand the basics of browsing the internet and using search engines



## Overview:



### What is a Web Browser?

- **Definition:** A software application that enables users to access, retrieve, and view information on the World Wide Web.

- Functions of web browser

### **Popular Web Browsers:**

- Google Chrome
- Mozilla Firefox
- Safari
- Microsoft Edge

## **Browsing and Navigating the Internet**

### **What is a Web Browser?**



A web browser is a software application that enables users to access, retrieve, and view information on the World Wide Web (www). It acts as an intermediary between the user and the internet, interpreting and displaying web pages, multimedia content, and other resources. Web browsers use Hypertext Transfer Protocol (HTTP) to communicate with web servers and render content formatted in Hypertext Markup Language (HTML) and other web technologies like CSS (Cascading Style Sheets) and JavaScript.

## Key Functions of Web Browsers:

1. **Rendering Web Pages:** Browsers interpret HTML, CSS, and JavaScript to display web pages correctly.
2. **Navigation:** They provide tools for navigating between pages using hyperlinks, back and forward buttons, and bookmarks.
3. **User Interface:** Browsers offer user interfaces that include address bars, search bars, tab management, and extensions.
4. **Security:** Modern browsers incorporate security features to protect users from malware, phishing, and other online threats.
5. **Privacy:** They offer privacy options like incognito or private browsing modes, and settings to manage cookies and trackers.

## Examples of Popular Web Browsers:



## Google Chrome:

- **Overview:** Developed by Google, Chrome is known for its speed, simplicity, and extensive library of extensions.
- **Features:** Syncing across devices, built-in Google services integration, incognito mode, extensive extension support.
- **Platforms:** Available on Windows, macOS, Linux, Android, and iOS.



## Mozilla Firefox:

- **Overview:** Developed by Mozilla Foundation, Firefox emphasizes privacy, customization, and open-source development.
- **Features:** Enhanced privacy controls, robust customization options with add-ons, tracking protection, Firefox Sync.
- **Platforms:** Available on Windows, macOS, Linux, Android, and iOS.



### Safari:

- **Overview:** Developed by Apple, Safari is the default browser for macOS and iOS devices, known for its energy efficiency and integration with Apple's ecosystem.
- **Features:** Optimized for Apple hardware, privacy features like Intelligent Tracking Prevention, Reading List, iCloud syncing.

- **Platforms:** Available on macOS and iOS.



### **Microsoft Edge:**

- **Overview:** Developed by Microsoft, Edge is based on the Chromium engine (same as Chrome), offering a blend of performance, compatibility, and integration with Microsoft services.
- **Features:** Collections for organizing web content, built-in PDF reader, Cortana integration, privacy tools, and tracking prevention.
- **Platforms:** Available on Windows, macOS, Linux, Android, and iOS.



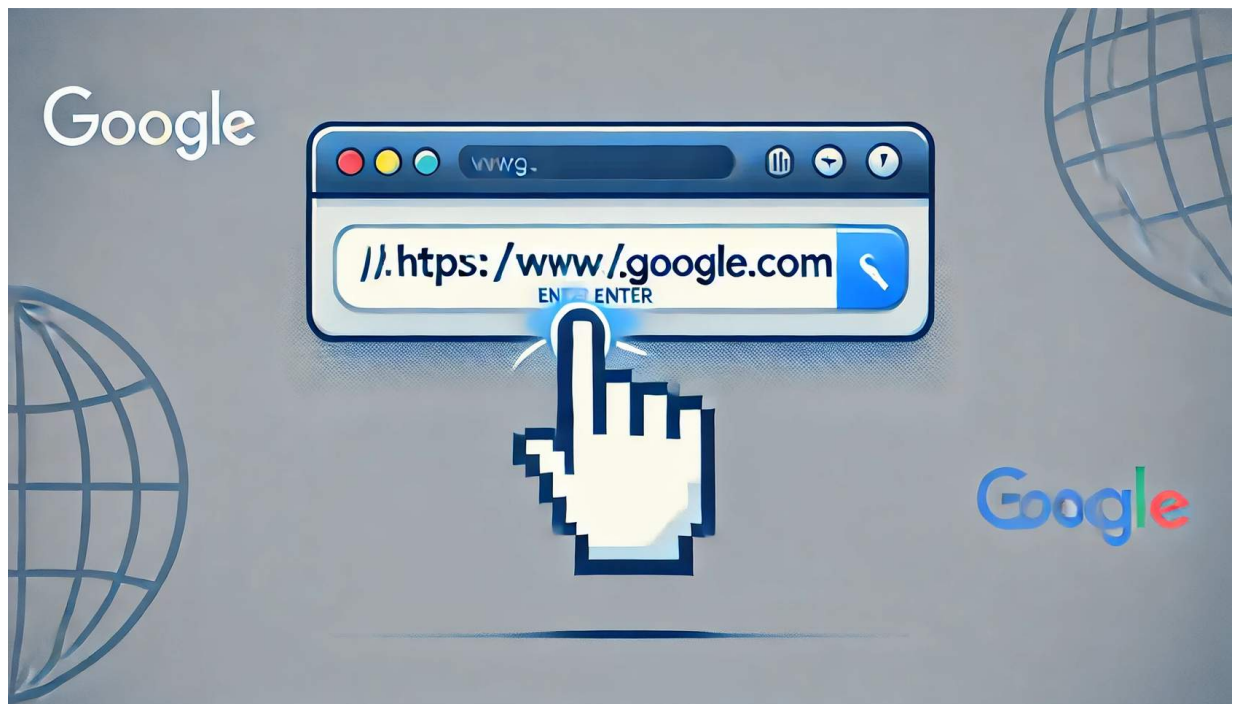
# Navigating the Internet: How to Use a Web Browser

Navigating the internet using a web browser involves a few basic steps to find, access, and interact with web content. Here's a guide to help you get started:



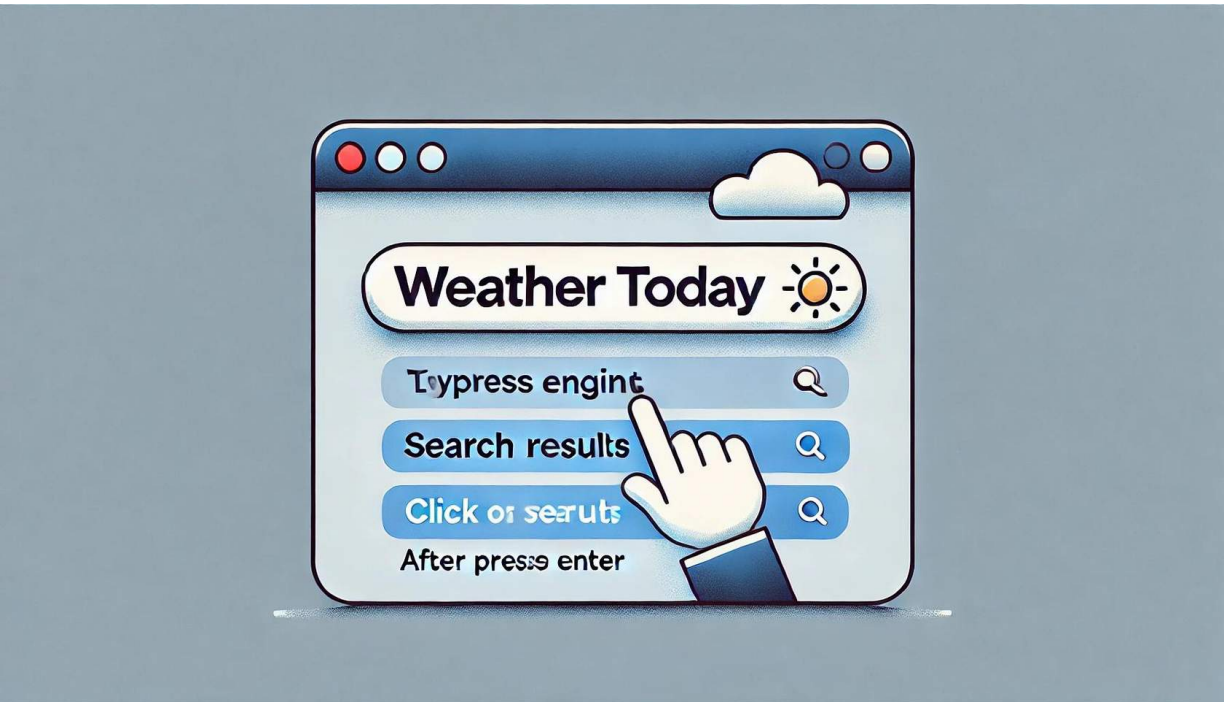
## 1. Opening a Web Browser

- **Locate and launch the web browser:** Find the browser icon on your desktop, taskbar, or applications folder and double-click to open it.
- **Common browsers:** Google Chrome, Mozilla Firefox, Safari, Microsoft Edge.



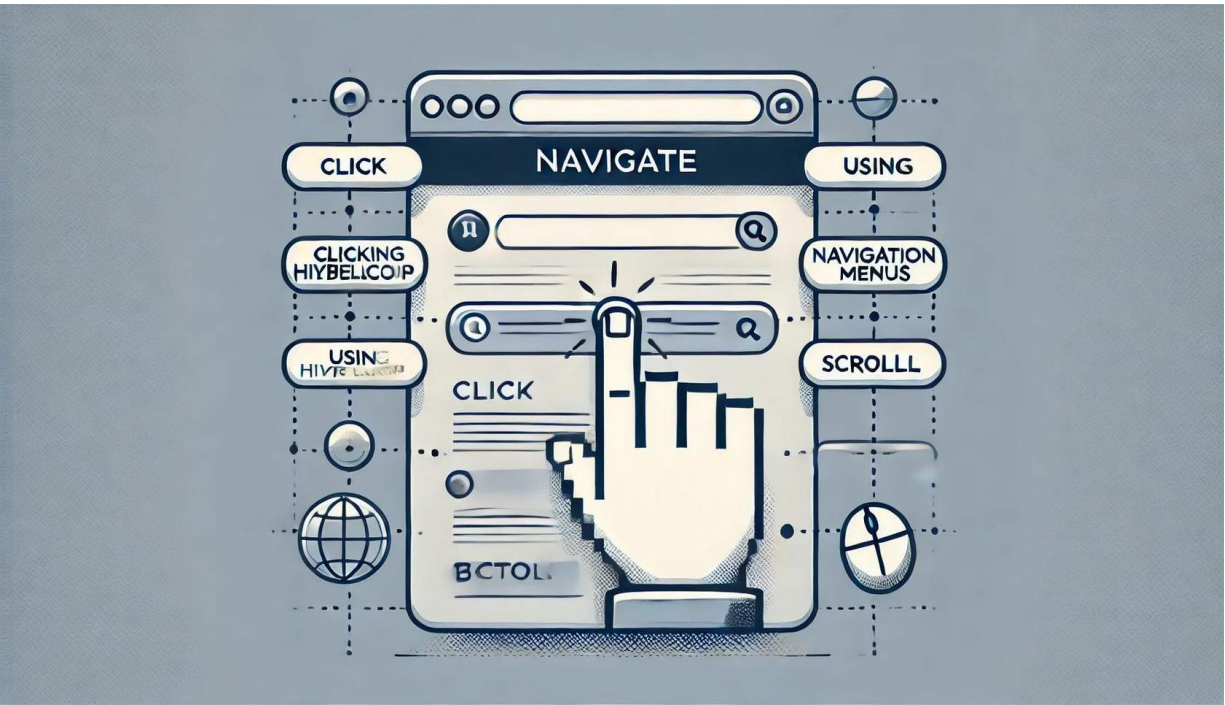
## 2. Entering a Web Address (URL)

- **Address Bar:** At the top of the browser window, you'll see the address bar. This is where you type the web address (URL) of the site you want to visit.
- **Example:** Type `https://www.google.com` to go to Google's homepage.
- **Press Enter:** After typing the URL, press the Enter key to navigate to the website.



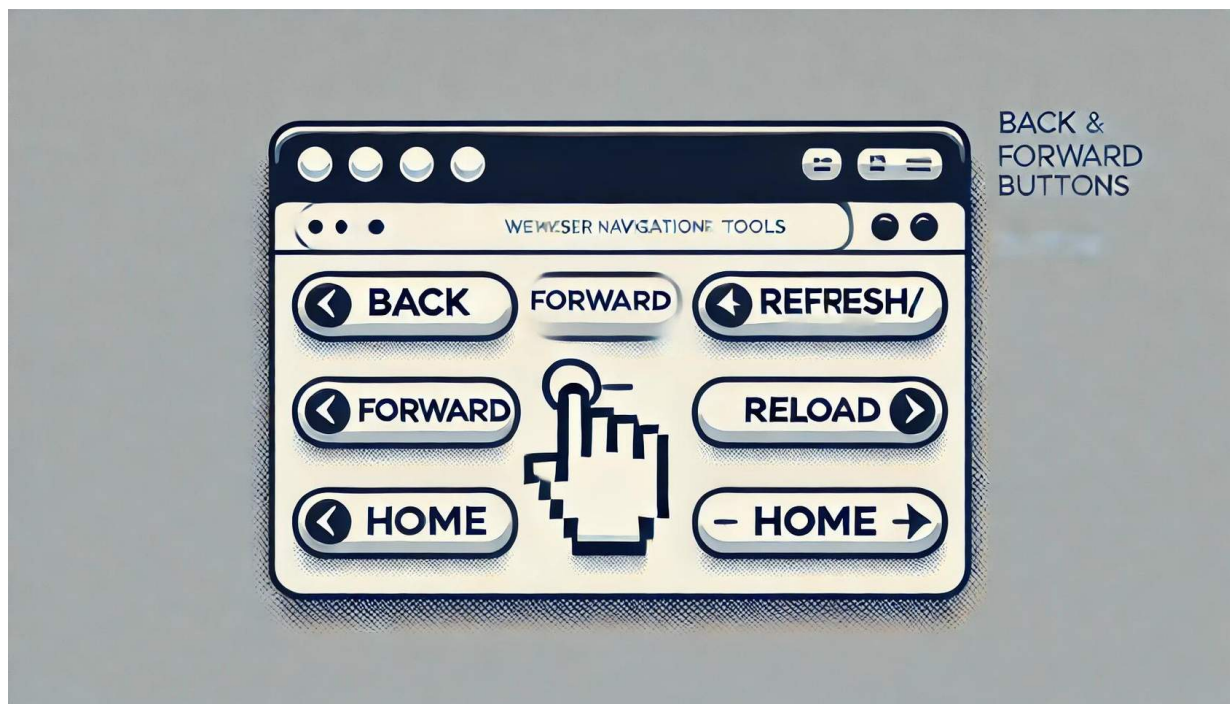
### 3. Using Search Engines

- **Search Bar:** Many browsers have a combined address and search bar. If you don't know the exact URL, you can type keywords or phrases related to what you're looking for.
- **Example:** Type "weather today" in the search bar and press Enter to get weather information.
- **Search Results:** Click on the search results that appear to visit different websites.



#### 4. Navigating Within a Website

- **Hyperlinks:** Click on hyperlinks (usually underlined or highlighted text) to navigate to different pages within a website.
- **Menus and Buttons:** Use navigation menus and buttons provided on the website to explore different sections.
- **Scroll:** Use your mouse or trackpad to scroll up and down the page to view more content.



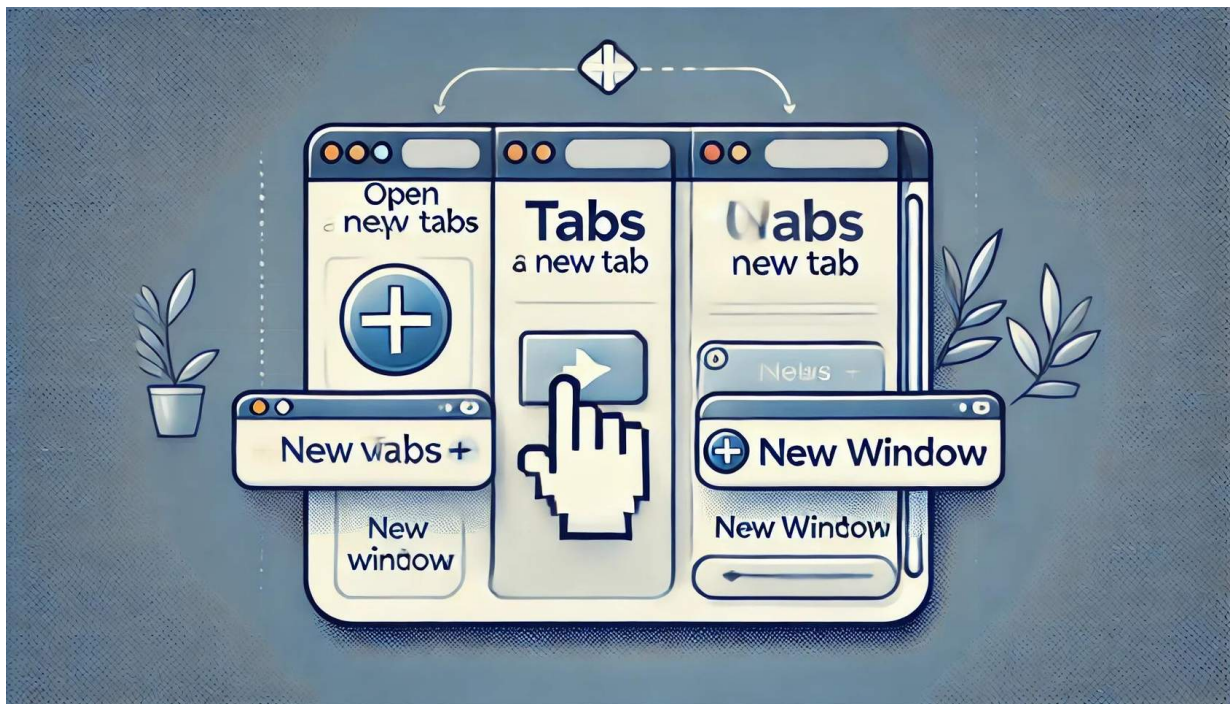
## 5. Using Browser Navigation Tools

- **Back and Forward Buttons:** Located at the top left of the browser, these buttons let you go back to the previous page or forward to the next one.
- **Refresh/Reload Button:** Refreshes the current page to update the content. This button is usually found next to the address bar.
- **Home Button:** Takes you back to the browser's home page (if set).



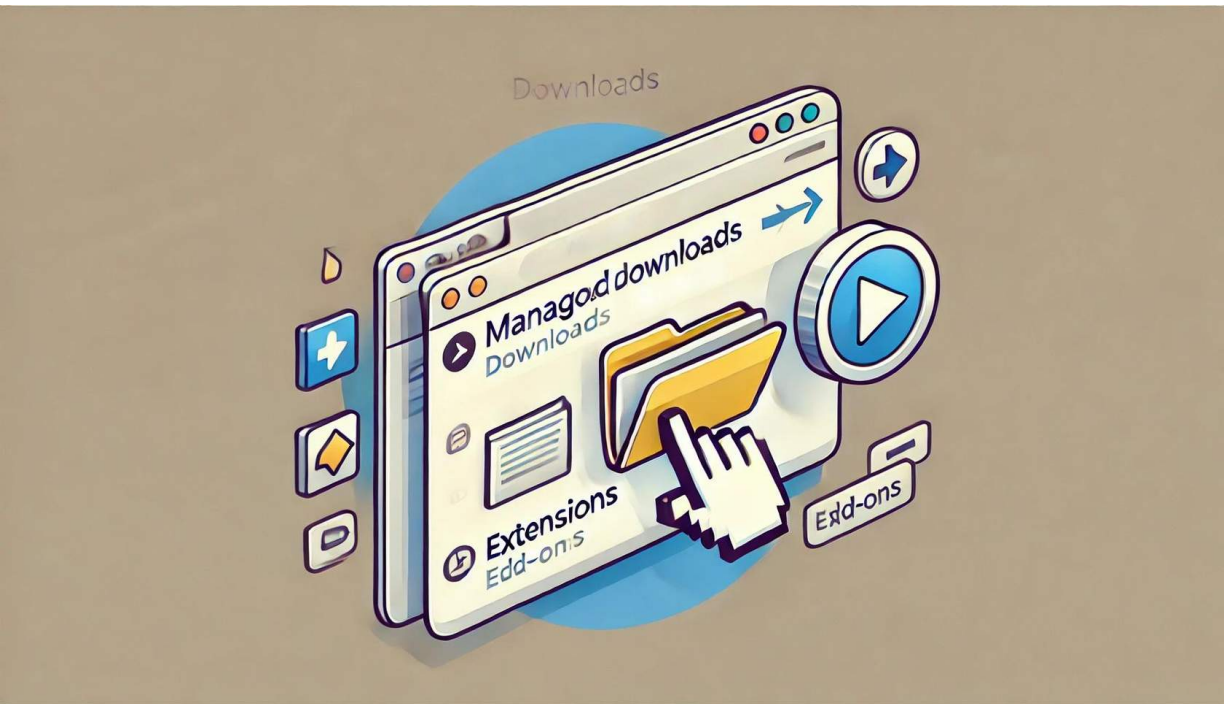
## 6. Bookmarking and History

- **Bookmarks:** Save your favorite or frequently visited sites by bookmarking them. Click the star icon (or similar) in the address bar to add a bookmark.
- **Access Bookmarks:** Open the bookmarks menu to quickly access your saved sites.
- **History:** Access your browsing history to revisit websites you've previously visited. This is usually found in the browser menu under "History".



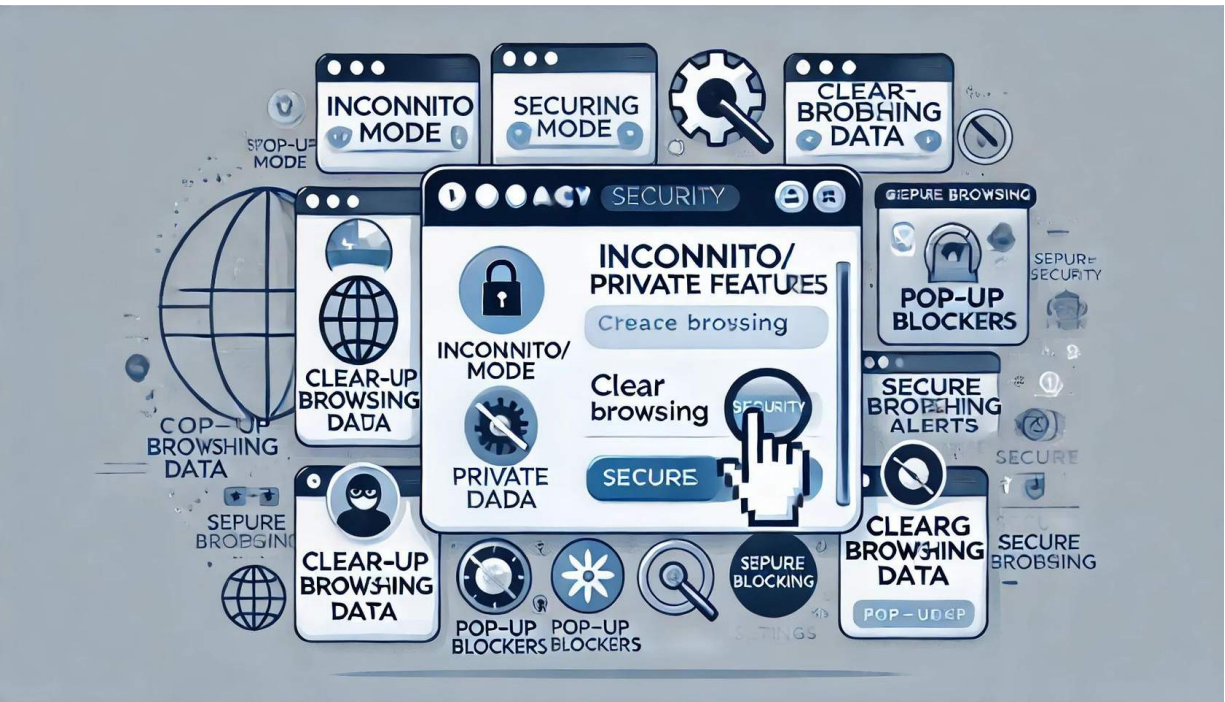
## 7. Tabs and Windows

- **Tabs:** Open multiple web pages in a single browser window using tabs. Click the plus sign (+) next to the current tab to open a new one.
- **Switch Tabs:** Click on different tabs at the top of the browser to switch between open pages.
- **New Windows:** Open a new browser window if you want to separate tasks. Use the browser menu (usually three dots or lines) to select "New Window".



## 8. Managing Downloads and Extensions

- **Downloads:** When you download files from the internet, they are typically saved to your computer's "Downloads" folder. Access downloads through the browser's download manager (usually an icon that looks like an arrow).
- **Extensions/Add-ons:** Customize your browsing experience with extensions or add-ons. These are small software programs that add extra features to your browser. Access and manage them through the browser's settings or menu.



## 9. Privacy and Security

- **Incognito/Private Mode:** Use incognito or private mode to browse without saving your history, cookies, or temporary files.
- **Clear Browsing Data:** Regularly clear your browsing data to protect your privacy. This can be done through the browser's settings.
- **Security Features:** Keep your browser updated and make use of built-in security features like pop-up blockers, anti-phishing tools, and secure browsing alerts.

### Conclusion:

*Using a web browser to navigate the internet involves understanding basic functions such as entering URLs, using search engines, navigating within websites, and utilizing browser tools like tabs, bookmarks, and history. Familiarizing yourself with these features will help you efficiently access and manage online information.*

# Employing Advanced Search Techniques



## Overview



### Examples of Advanced Search Techniques

- *Precise Keywords*
- *Boolean Operators*
- *Phrase Searching*

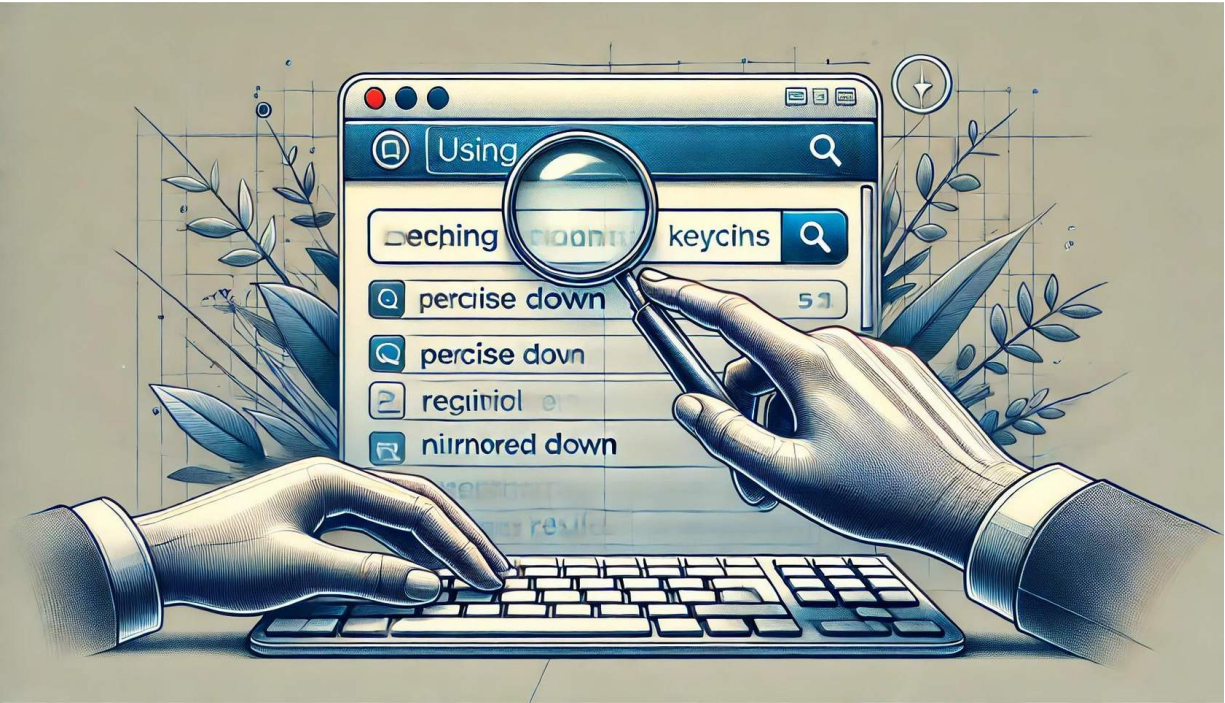
- *Truncation and Wildcards*
- *Advanced Search Fields*
- *Filters and Limits*
- *Citation Searching*
- *Database-Specific Techniques*

## Advanced Search Techniques

Advanced search techniques are specialized methods used to enhance the accuracy and efficiency of finding specific information in databases or search engines. These techniques go beyond simple keyword searches and involve various strategies to refine and optimize search results.

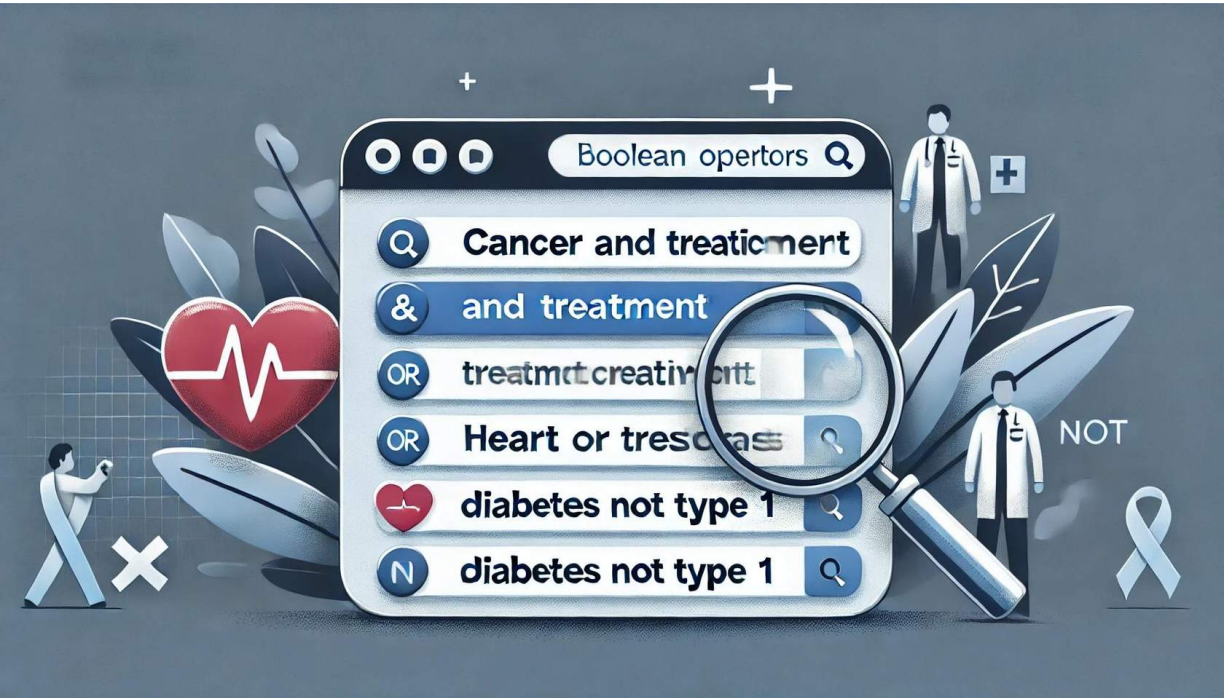
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To find specific information quickly, follow these advanced search techniques:



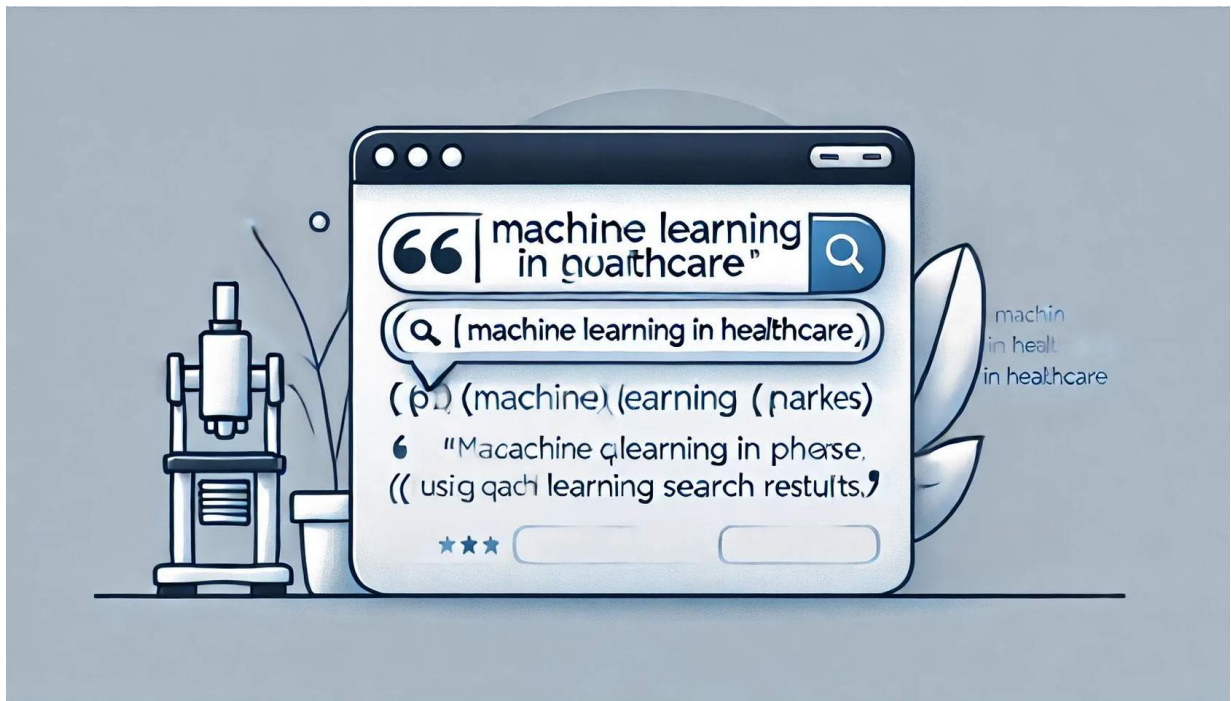
**Use Specific Keywords:**

Be as precise as possible with your keywords. Use technical terms and jargon relevant to the field to narrow down the results.



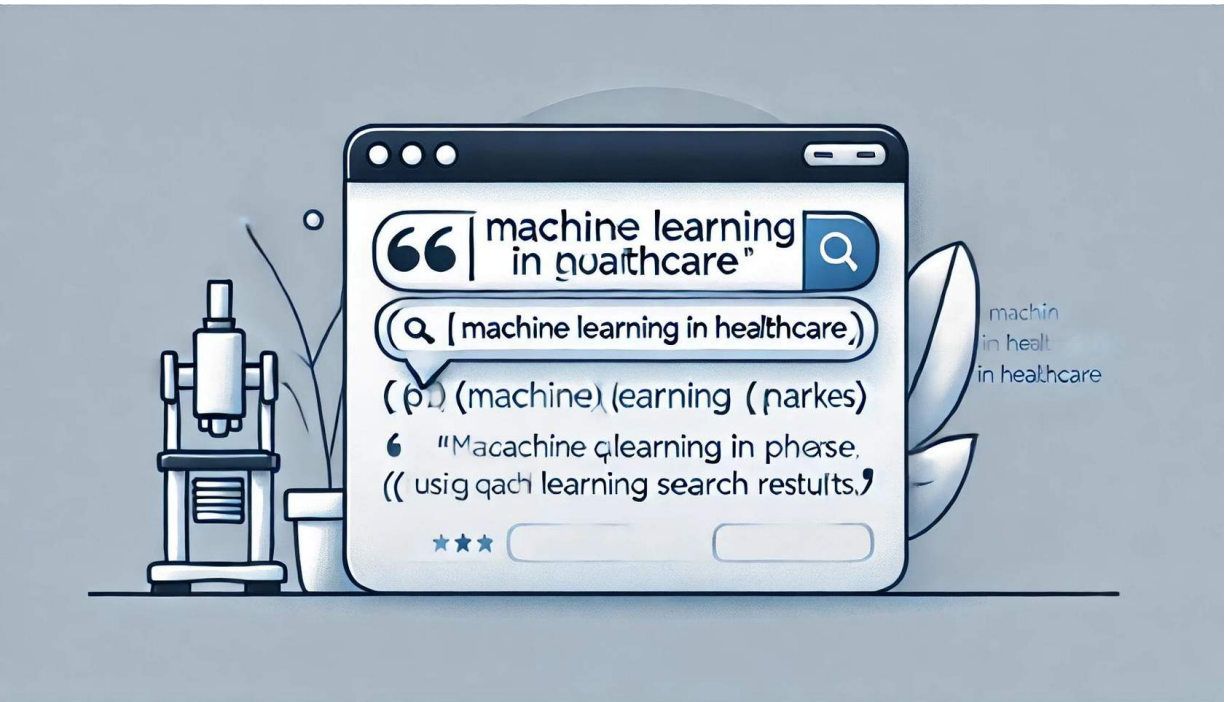
## Boolean Operators:

- **AND:** Ensures all search terms are included in the results (e.g., cancer AND treatment).
- **OR:** Includes either of the search terms (e.g., heart OR cardiovascular).
- **NOT:** Excludes specific terms from the results (e.g., diabetes NOT type 1).



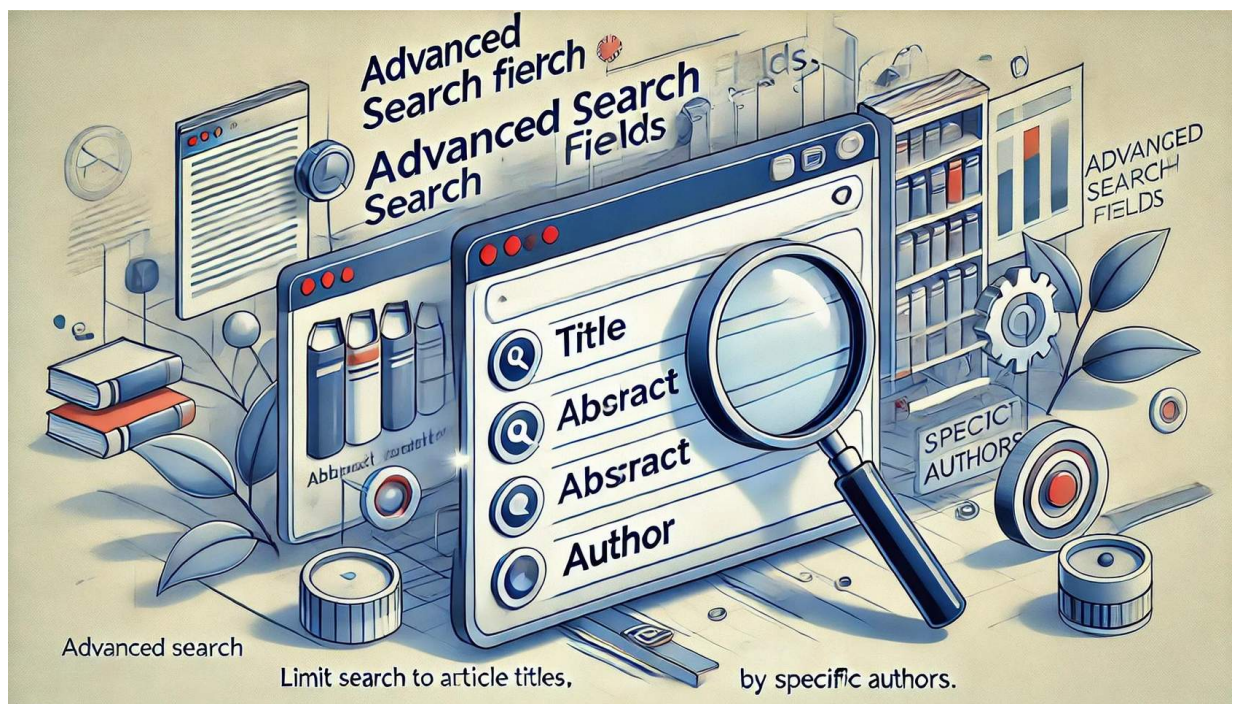
## Phrase Searching:

Use quotation marks to search for an exact phrase (e.g., "machine learning in healthcare").



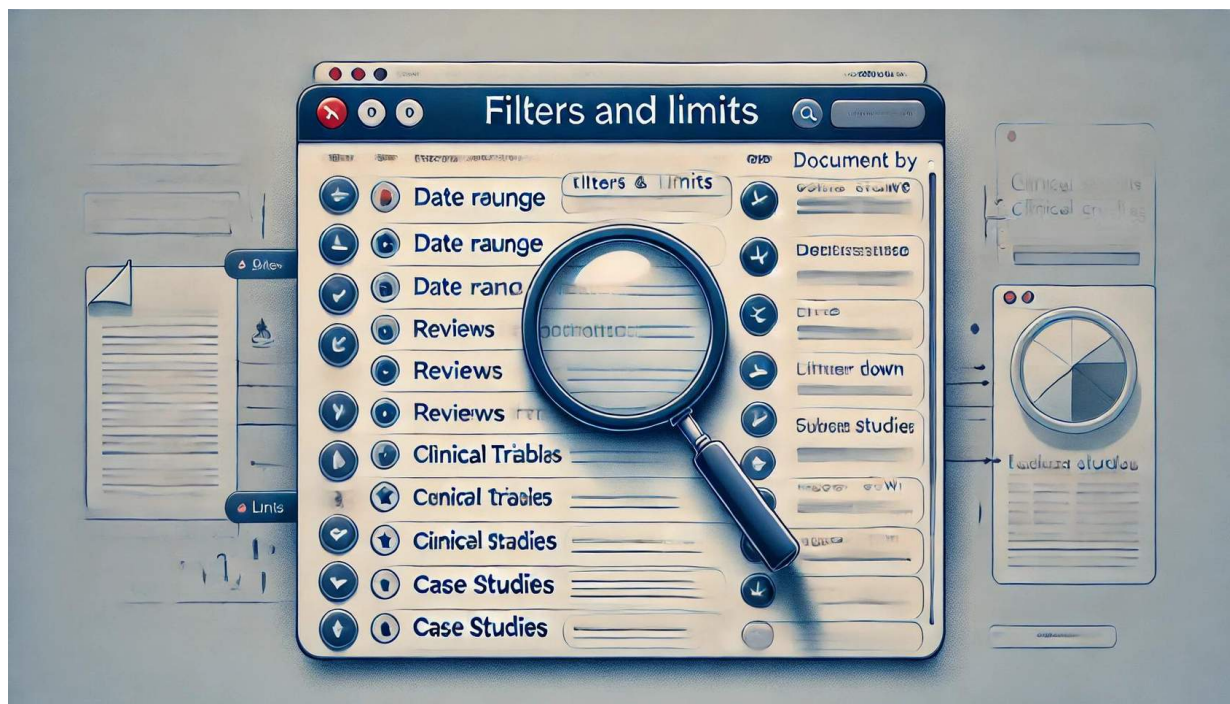
**Truncation and Wildcards:**

Use asterisks (\*) for truncation to include various word endings (e.g., genet\* for genetics, genetic, genetically). Use question marks (?) as wildcards to replace a single character in a word (e.g., wom?n for woman and women).



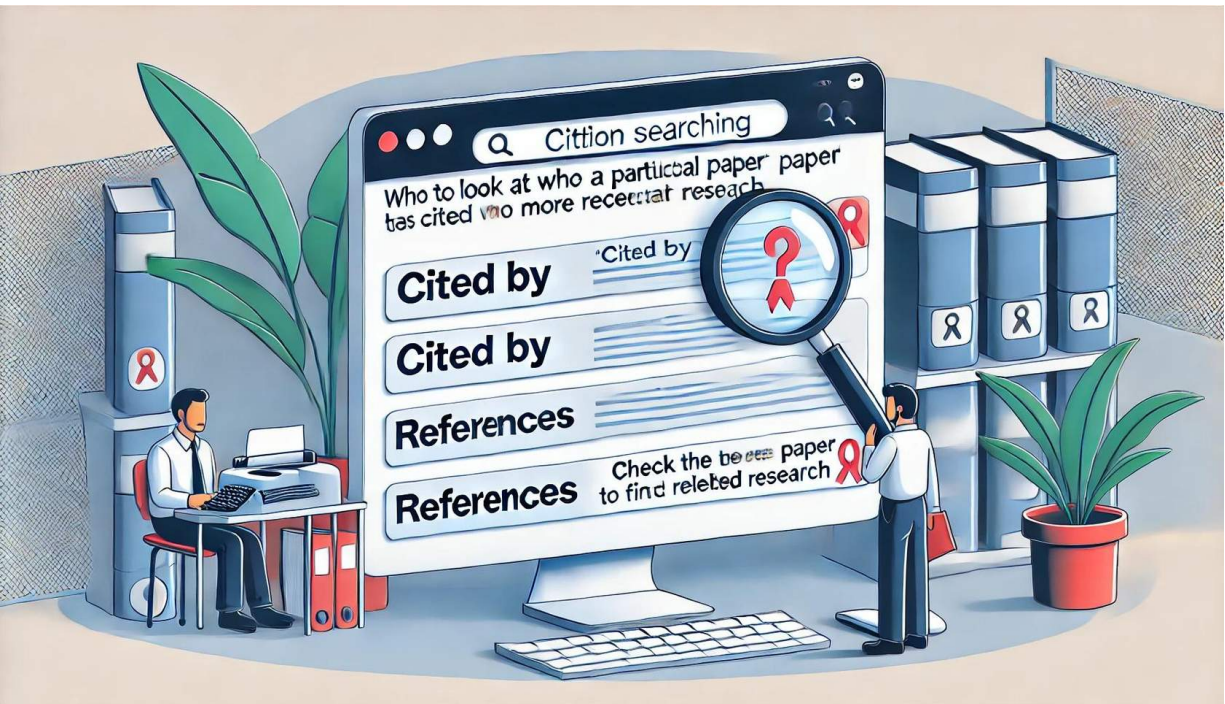
### Advanced Search Fields:

- **Title:** Limit search to article titles.
- **Abstract:** Focus on the abstract for more specific information.
- **Author:** Search by specific authors to find relevant works.



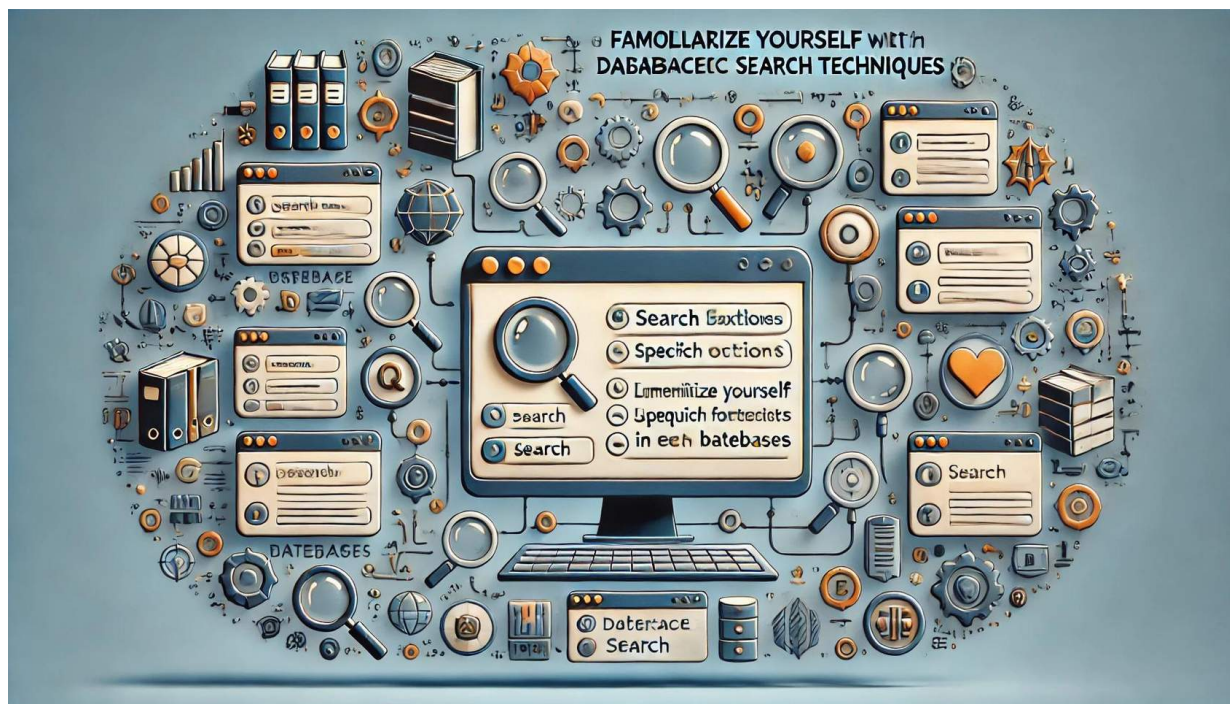
### Filters and Limits:

- **Date Range:** Specify publication dates to find the most recent research.
- **Document Type:** Filter by document type, such as reviews, clinical trials, or case studies.
- **Subject Area:** Narrow down to specific subject areas relevant to your research.



### Citation Searching:

- **Cited By:** Look at who has cited a particular paper to find more recent research on the topic.
- **References:** Check the references of a paper to find related research.



### **Database-Specific Techniques:**

Each database may have unique search functionalities. Familiarize yourself with these to optimize your search strategy.

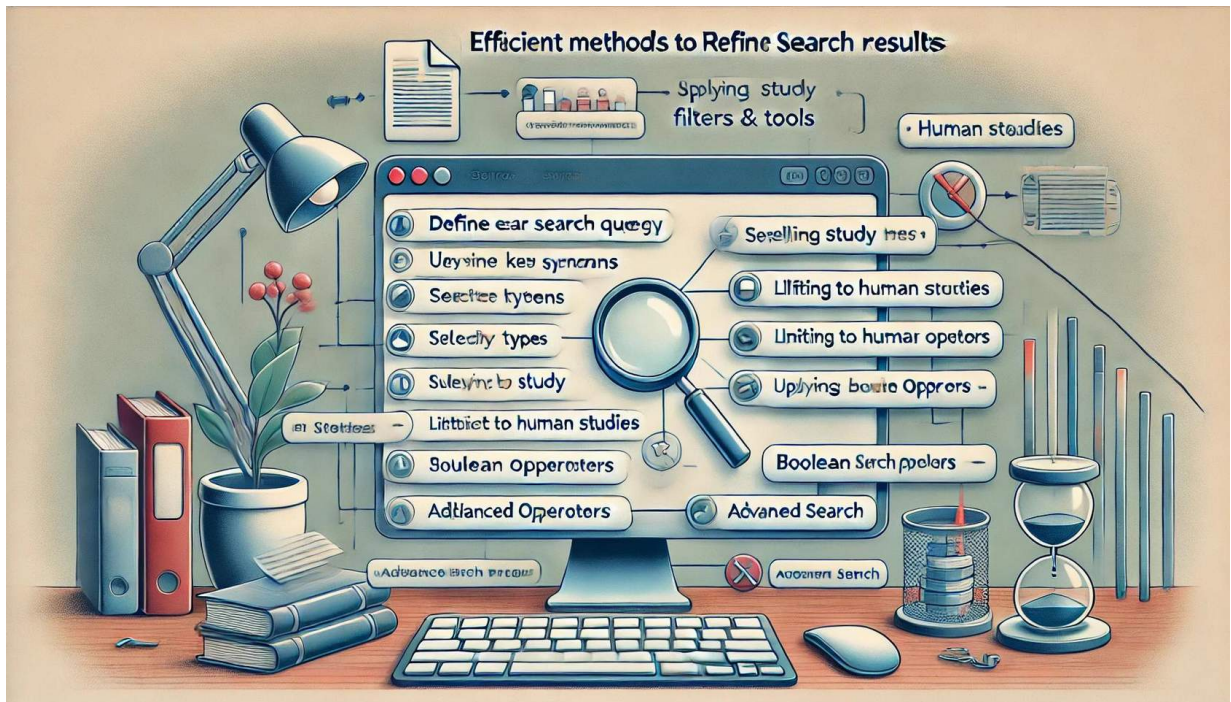
### **Conclusion:**

*By employing these techniques, you can efficiently locate specific and relevant information within scientific databases.*

# Use various filters and tools to refine search results.



## Overview:



Learn efficient methods to refine search results using filters and tools, ensuring precise information retrieval.

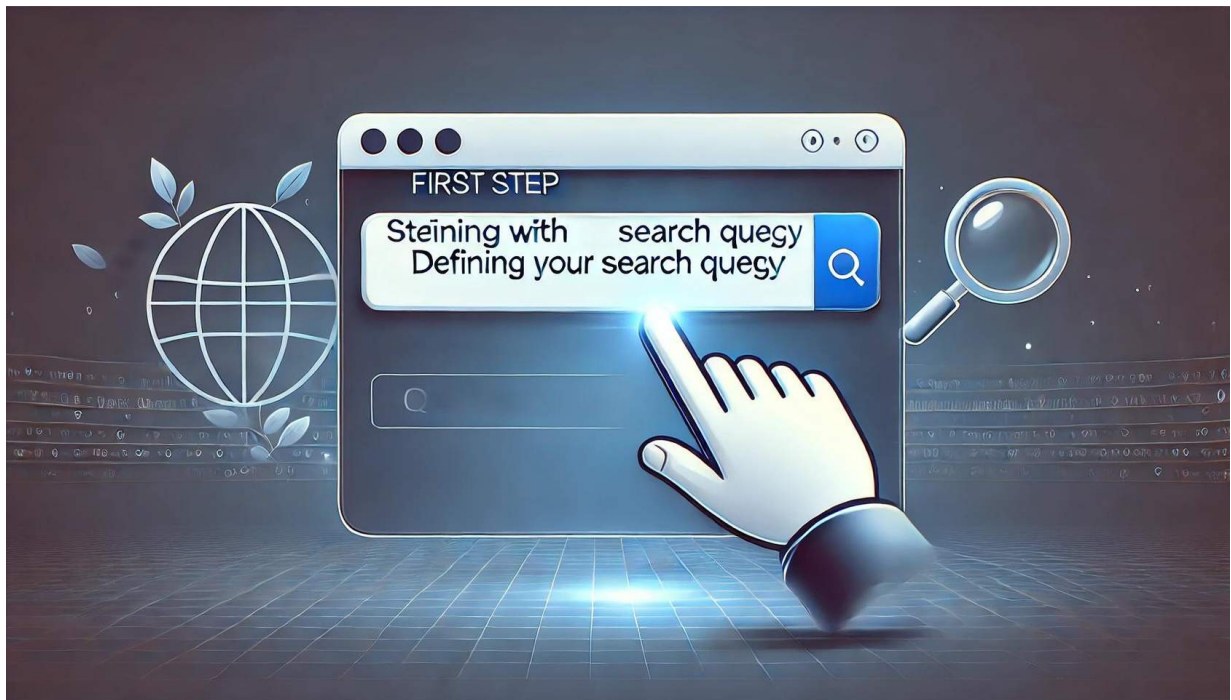
- **Steps of Refining Search Results**

- **Examples of Refining Search Results**

## **Introduction:**

When conducting research or searching for information, refining your search results can save you time and help you find the most relevant information. By using filters and tools, you can narrow down your search to get more precise results.

## **Steps to Refine Search Results**



### **1. Define Your Search Query:**

- Start with a clear and specific search query. This is the foundation of your search and will guide the use of filters and tools.



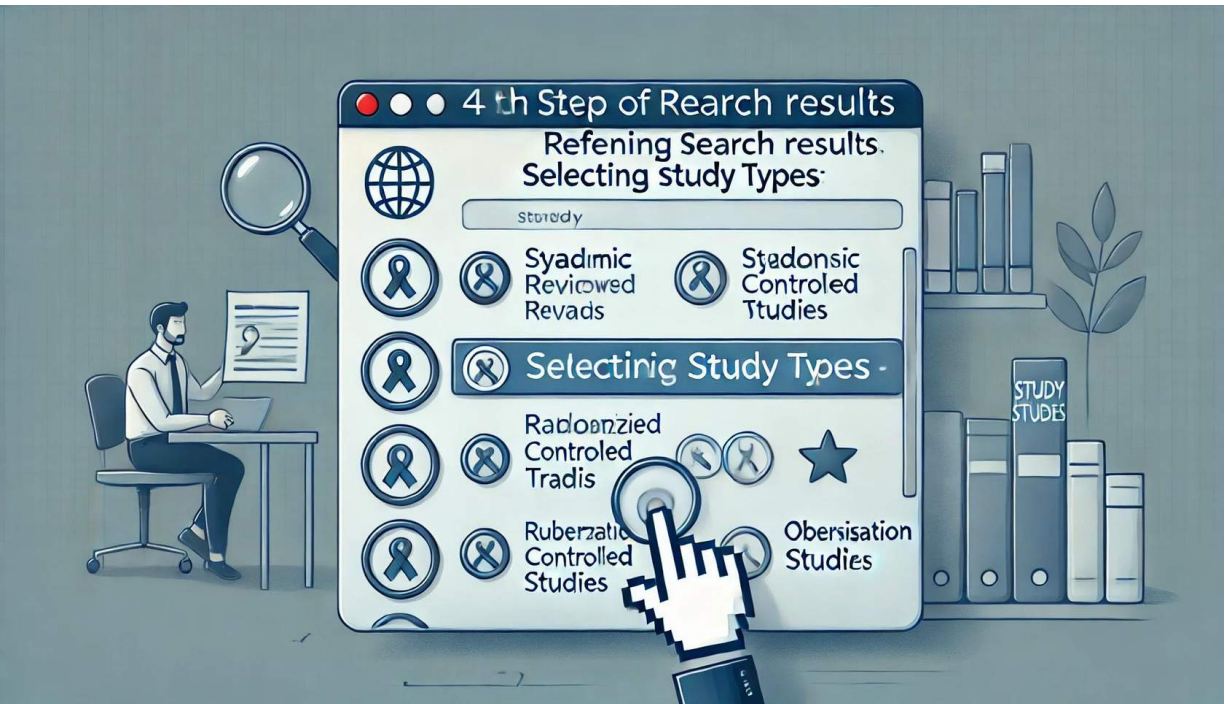
## 2. Use Keywords Effectively:

- Identify key terms related to your topic. Use quotes for exact phrases (e.g., "climate change impact"), and include synonyms to cover different aspects of your topic.



### 3. Apply Date Filters:

- **Publication Year:** If you need recent information, filter results by publication year. Most search engines and databases allow you to set a range (e.g., 2010-2023).
- **Specific Dates:** For more precision, use specific start and end dates.



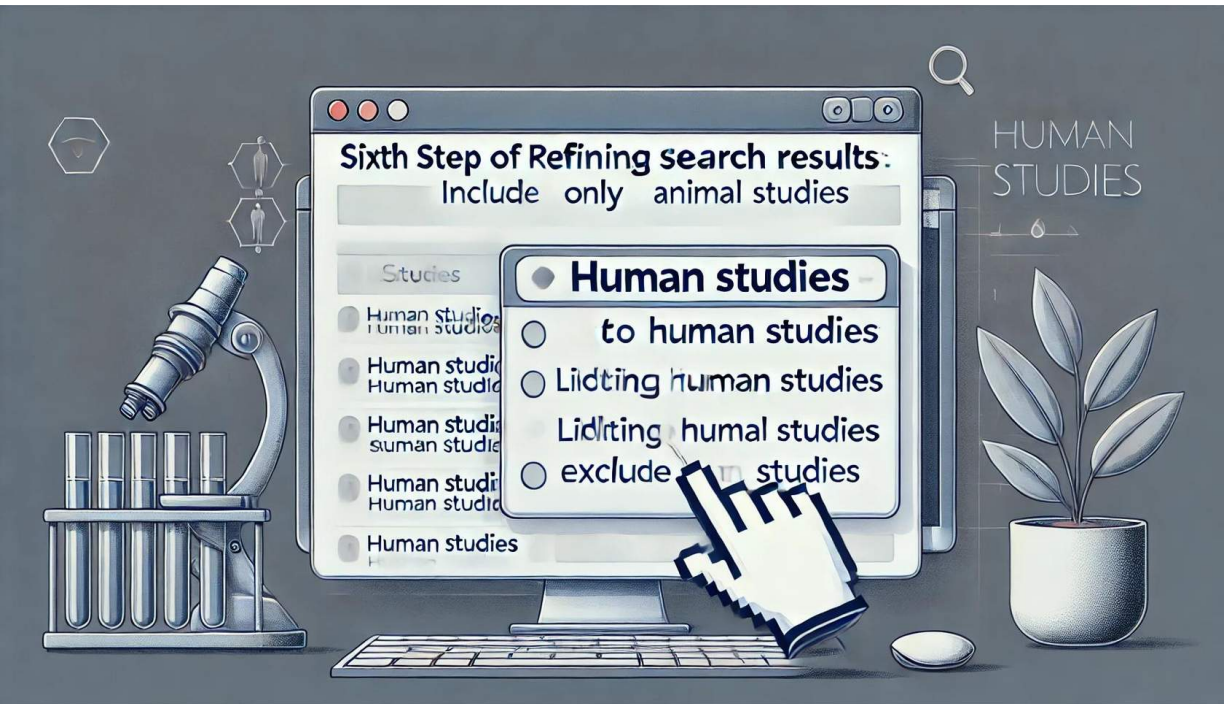
#### 4. Select Study Types:

- Depending on your research needs, you might prefer certain types of studies. Common study types include:
  - **Systematic Reviews:** Comprehensive summaries of research on a topic.
  - **Randomized Controlled Trials (RCTs):** Experiments that randomly assign participants to test treatments.
  - **Observational Studies:** Studies observing outcomes without intervention.



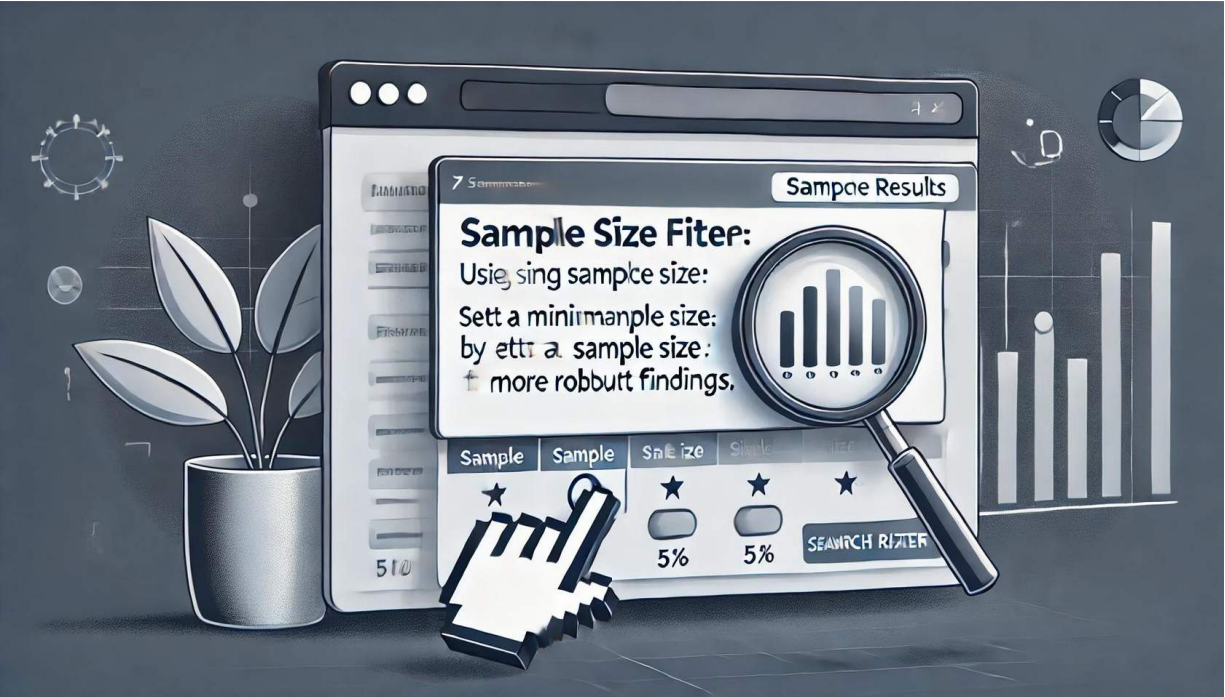
## 5. Filter by Subject or Discipline:

- Narrow your search by selecting relevant subjects or disciplines. For example, if you're researching medical topics, filter results to include only health sciences.



**6. Limit to Human Studies:**

- If your focus is on human-related research, apply a filter to exclude animal studies.



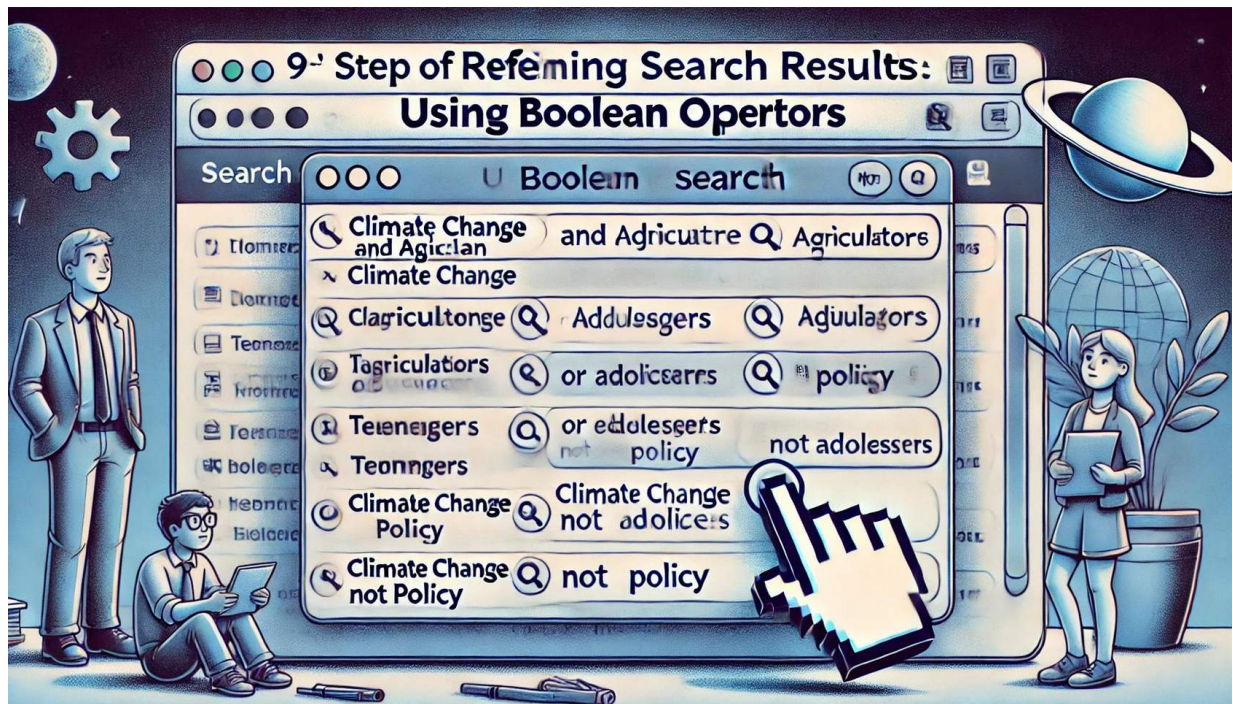
## 7. Use Sample Size Filters:

- For more robust findings, you might want studies with larger sample sizes. Some databases allow you to set a minimum sample size.



## 8. Journal Ranking Filters:

SJR Quartile: To find high-quality research, filter by journal ranking. Quartile 1 (Q1) journals are considered the highest quality.



## 9. Use Boolean Operators:

- Boolean operators (AND, OR, NOT) help refine your search:
  - **AND:** Narrows search by combining terms (e.g., "climate change AND agriculture").
  - **OR:** Broadens search to include any terms (e.g., "teenagers OR adolescents").
  - **NOT:** Excludes terms (e.g., "climate change NOT policy").



**10. Advanced Search Tools:**

- Many databases offer advanced search options, such as field-specific searches (e.g., author, title, abstract) and citation searches.

**Practical Example:**

Let's say you're researching the impact of climate change on agriculture. Here's how you might refine your search:

**1. Initial Query**

1 of 6

"climate change impact on agriculture"

**2. Date Filter**

Limit to studies published from 2015 to 2023.

2 of 6

**3. Study Type**

Filter to include only systematic reviews and RCTs.

3 of 6

Empty box for step 4.

Empty box for step 4.

## **5. Boolean Operator**

Use AND to combine terms (e.g., "climate change AND agriculture AND crop yield").

## **6. Journal Ranking**

Filter to include Q1 journals.

**Conclusion:**

*By using these filters and tools, you can effectively refine your search results to find the most relevant and high-quality information. Practice using these techniques across different search engines and databases to become proficient in conducting efficient and targeted research.*

# Evaluate the credibility and relevance of online information.



## Overview:



**Check Author's Credibility**  
Even information for credibility

**Check Author's Qualities**  
Examine purpose and audience

**Assess Content Quality**  
Analyze and Audience

**Analyze Content Quality**  
Evaluate purpose Design

**Evaluate Website Design**

**Check User Reviews**  
Peter

Check Reviews

**Steps:**

- Check Author's Credentials
- Examine Source
- Assess Content Quality
- Analyze Purpose and Audience
- Review Evidence
- Evaluate Website Design
- Check Peer Reviews

**Example:**

- Author
- Source
- Quality
- Website
- Peer Reviews

**Introduction:**

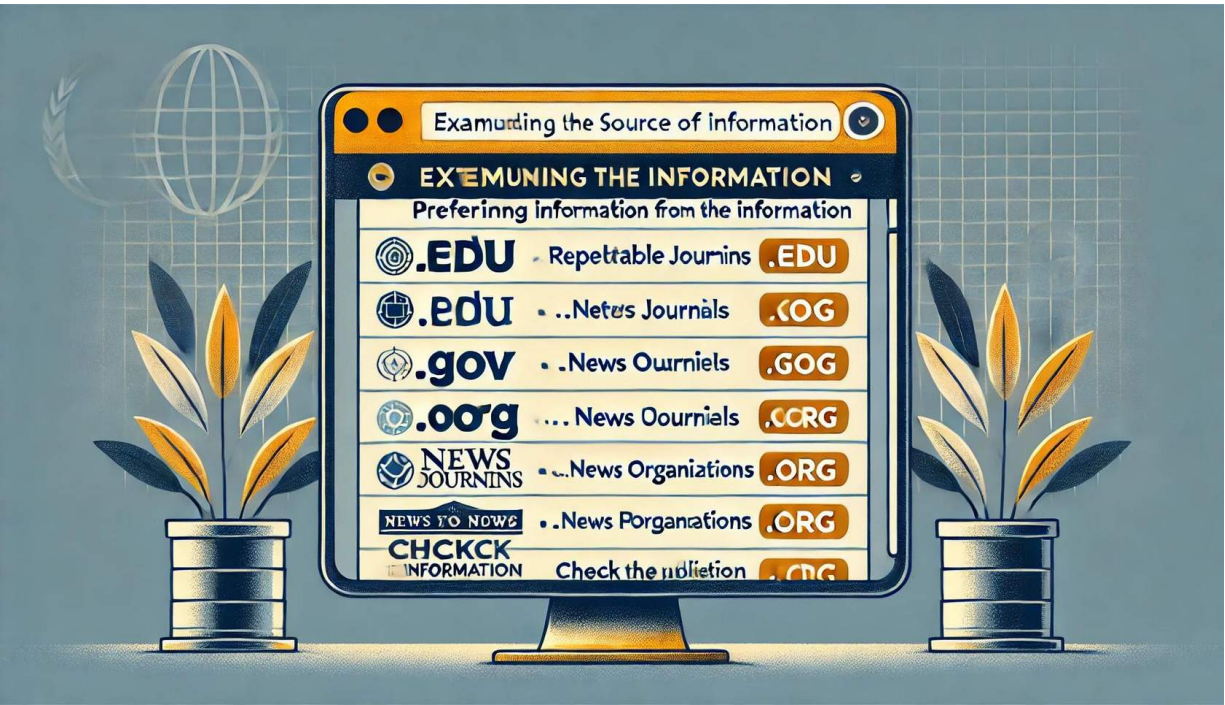
In the digital age, the ability to evaluate the credibility and relevance of online information is crucial. With the vast amount of content available, it is important to distinguish reliable sources from unreliable ones. This guide will help you develop the skills necessary to assess the trustworthiness and relevance of the information you find online.

## Steps to Evaluate Credibility and Relevance



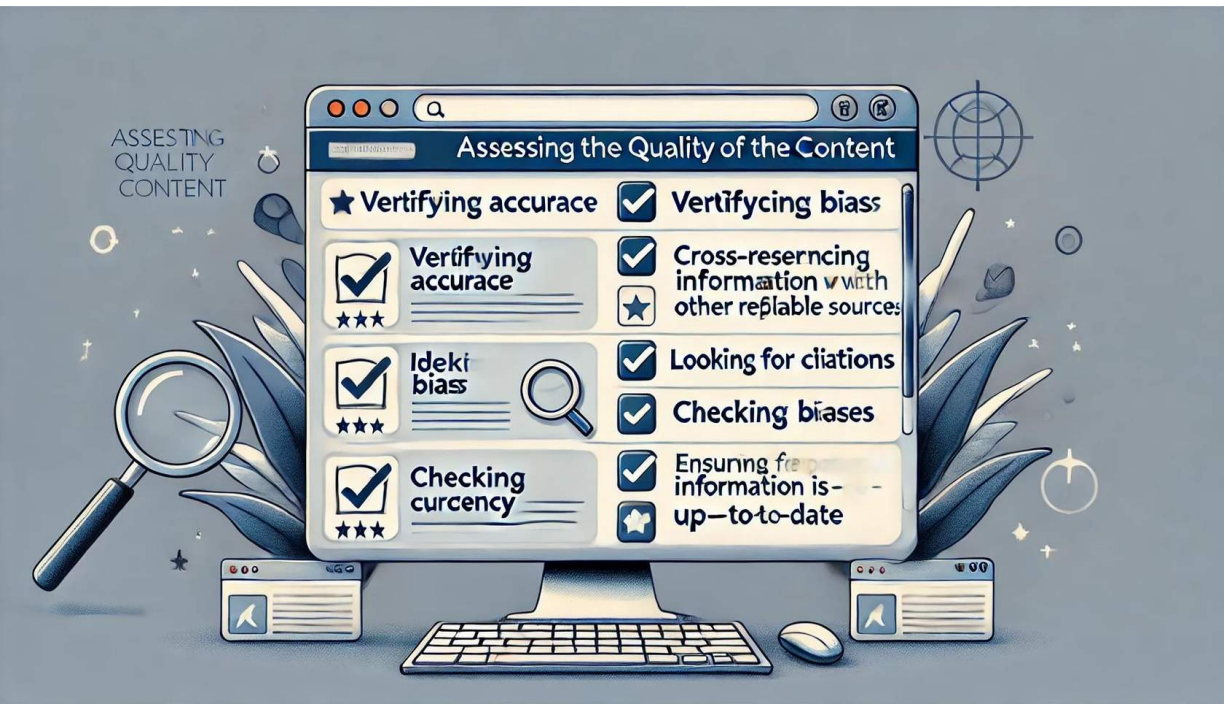
**Check the Author's Credentials:**

- Look for the author's qualifications, expertise, and affiliations. An expert in the field is more likely to provide accurate and reliable information.
- Search for the author's other works to see if they have a history of publishing on the



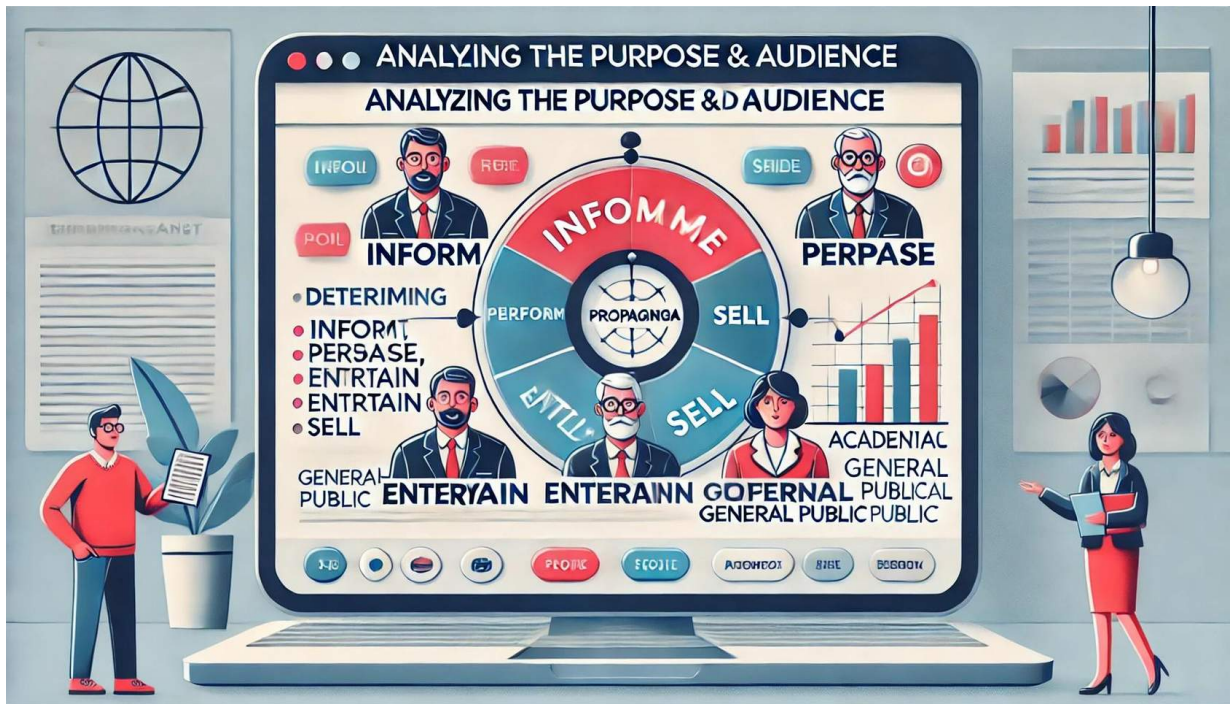
**Examine the Source:**

- **Domain:** Prefer information from reputable domains such as .edu, .gov, or .org, which often indicate educational, governmental, or non-profit organizations.
- **Publication:** Check if the information comes from a respected journal, news outlet, or organization.



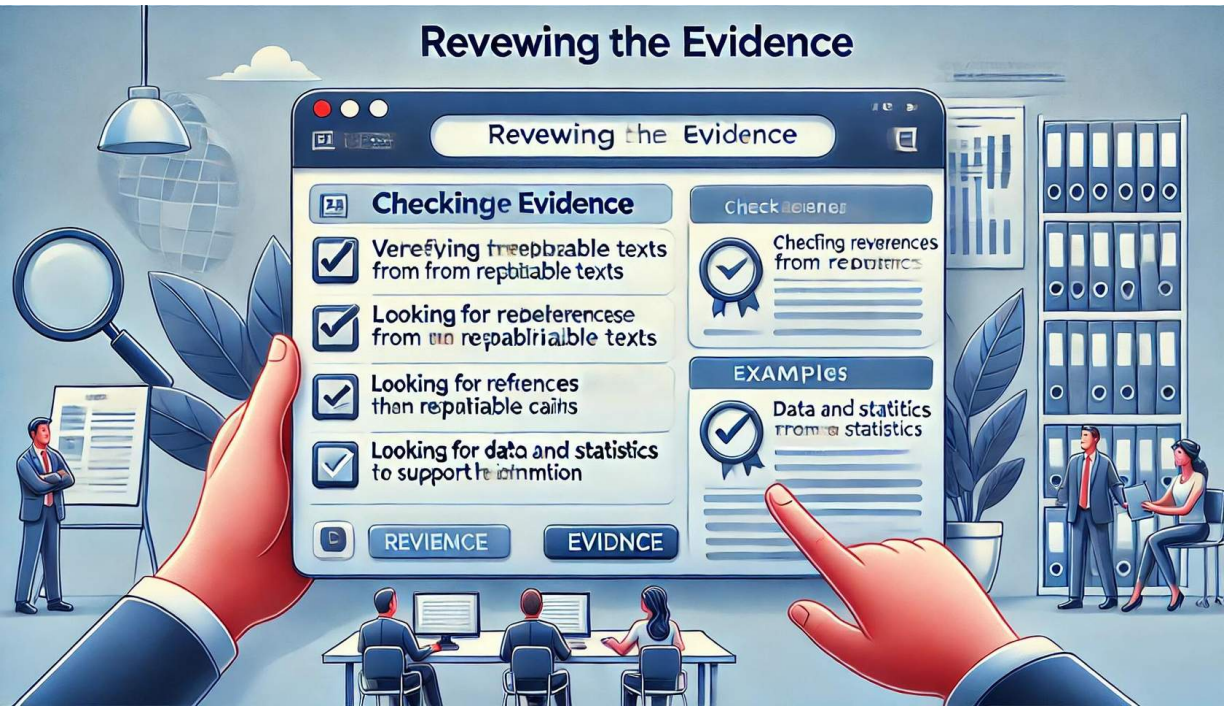
**Assess the Quality of the Content:**

- **Accuracy:** Verify the information by cross-referencing with other reliable sources. Look for citations and references to support claims.
- **Bias:** Be aware of potential biases. Consider whether the author or organization has a particular agenda or perspective.
- **Currency:** Ensure the information is up-to-date. In fast-evolving fields, such as science and technology, recent information is more likely to be accurate.



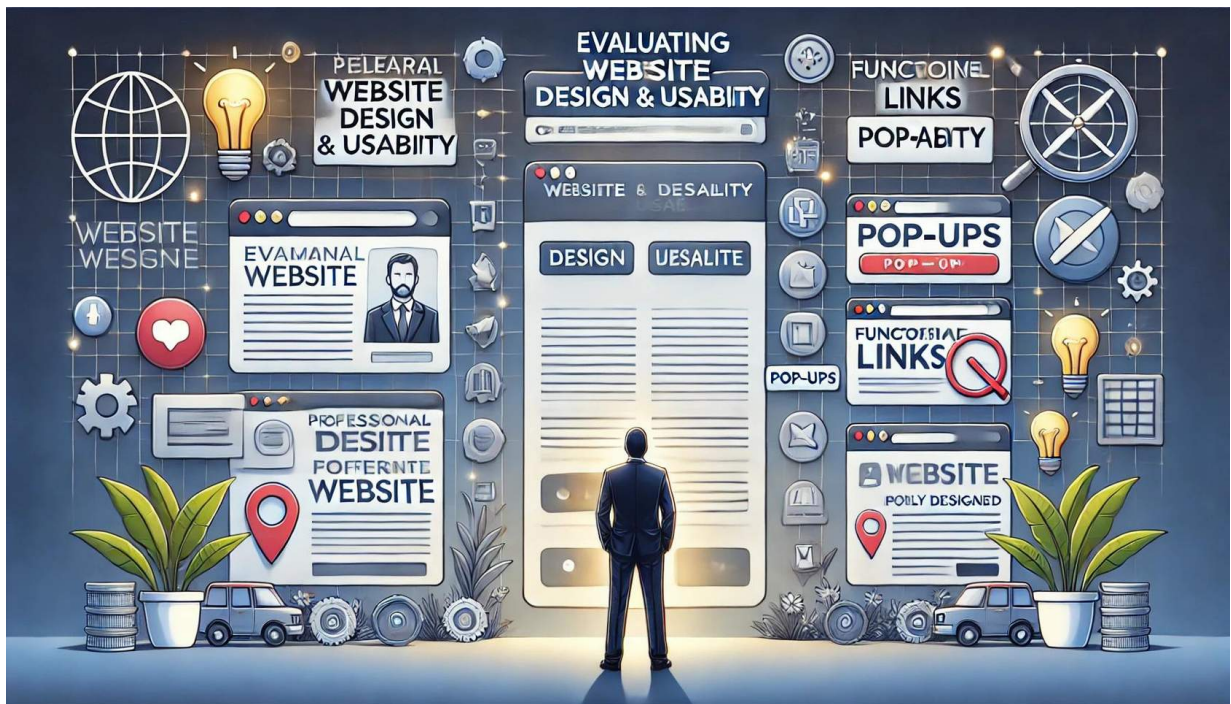
### Analyze the Purpose and Audience:

- Determine the purpose of the information. Is it to inform, persuade, entertain, or sell something? Be cautious of content designed primarily for marketing or propaganda.
- Consider the intended audience. Academic and professional content is often more reliable than content aimed at the general public.



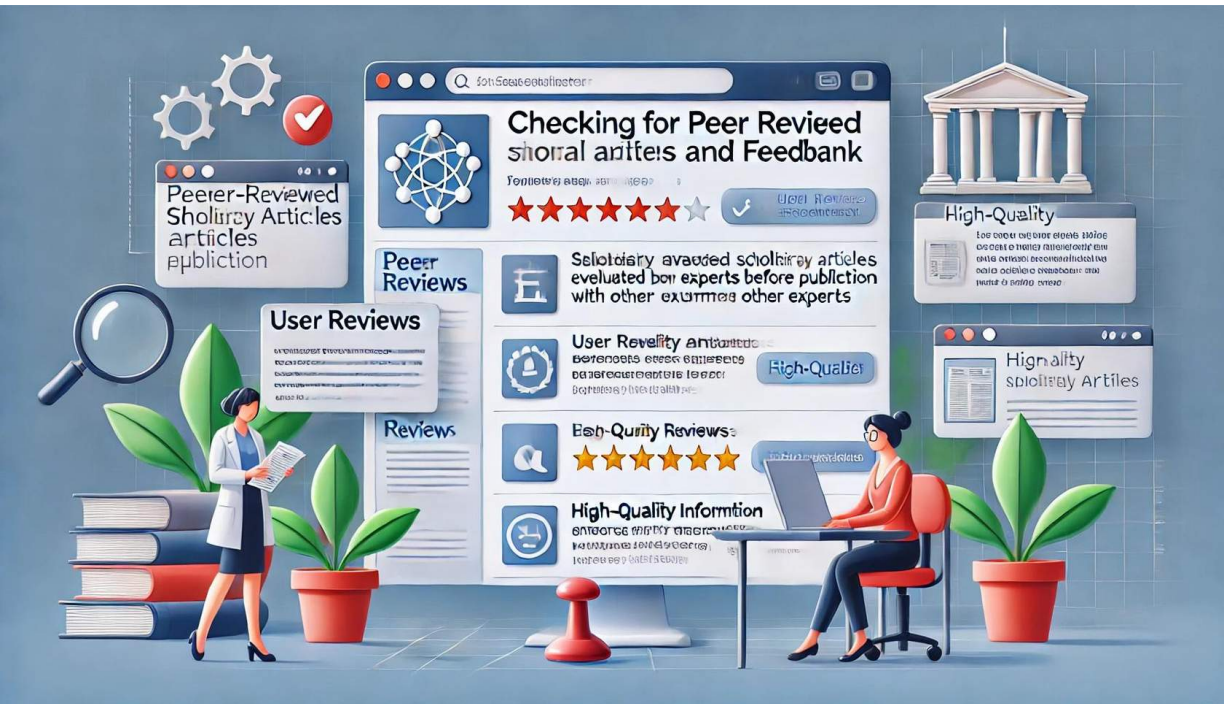
**Review the Evidence Provided:**

- **Sources:** Reliable articles cite credible sources. Check the references and ensure they come from reputable and authoritative texts.
- **Data:** Look for data and statistics that support the claims. Reliable information is often backed by empirical evidence.



### Evaluate the Website Design and Usability:

- Professional websites with clear layouts, functional links, and proper grammar are more likely to be trustworthy.
- Be cautious of websites with excessive ads, pop-ups, or poor design, which may indicate lower credibility.



**Check for Peer Reviews and Feedback:**

- Scholarly articles are often peer-reviewed, meaning they have been evaluated by experts in the field before publication.
- Look for user reviews, comments, and feedback on the content. High-quality information is often endorsed by other users and experts.

**Practical Example:**

Imagine you are researching the impact of social media on mental health. Here's how you might evaluate the credibility and relevance of an online article:

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## 2. Source

The article is published on a .edu website associated with a well-known university.

## 3. Quality of Content

The information is current, published within the last year, and includes citations from recent studies.

### **5. Evidence**

The article includes data from several peer-reviewed studies and provides links to these sources.

### **6. Website Design**

The website is professionally designed, easy to navigate, and free from excessive advertisements.

## **7. Peer Reviews and Feedback**

7 of 7

The article has been positively reviewed by other psychologists and has received numerous endorsements.

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# Utilize digital tools to organize and manage digital content.



## Overview:

# Step 1 Effective Use



### ***Steps to utilize digital tools:***

1. Cloud Storage
2. Note-Taking Apps
3. Task Management
4. Reference Management
5. Digital Calendars
6. PDF Management
7. Bookmarking Tools

### ***Example Workflow:***

- Cloud Storage
- Note-Taking
- Task Management
- Reference Management
- Digital Calendar
- PDF Management
- Bookmarking

### **Introduction:**

In today's digital age, managing and organizing digital content is an essential skill. With the right tools, you can streamline your workflow, keep your information organized, and improve productivity. This guide will help you learn how to use various digital tools to manage your digital content efficiently.

# Steps to Utilize Digital Tools



## 1. Use Cloud Storage Services:

- **Google Drive, Dropbox, OneDrive:** These services allow you to store, organize, and access your files from anywhere. Create folders and subfolders to keep your files structured and easy to find.
- **Tips:**
  - Regularly back up important files.
  - Use descriptive file names and organize files into relevant folders.
  - Share folders with peers for collaborative projects.



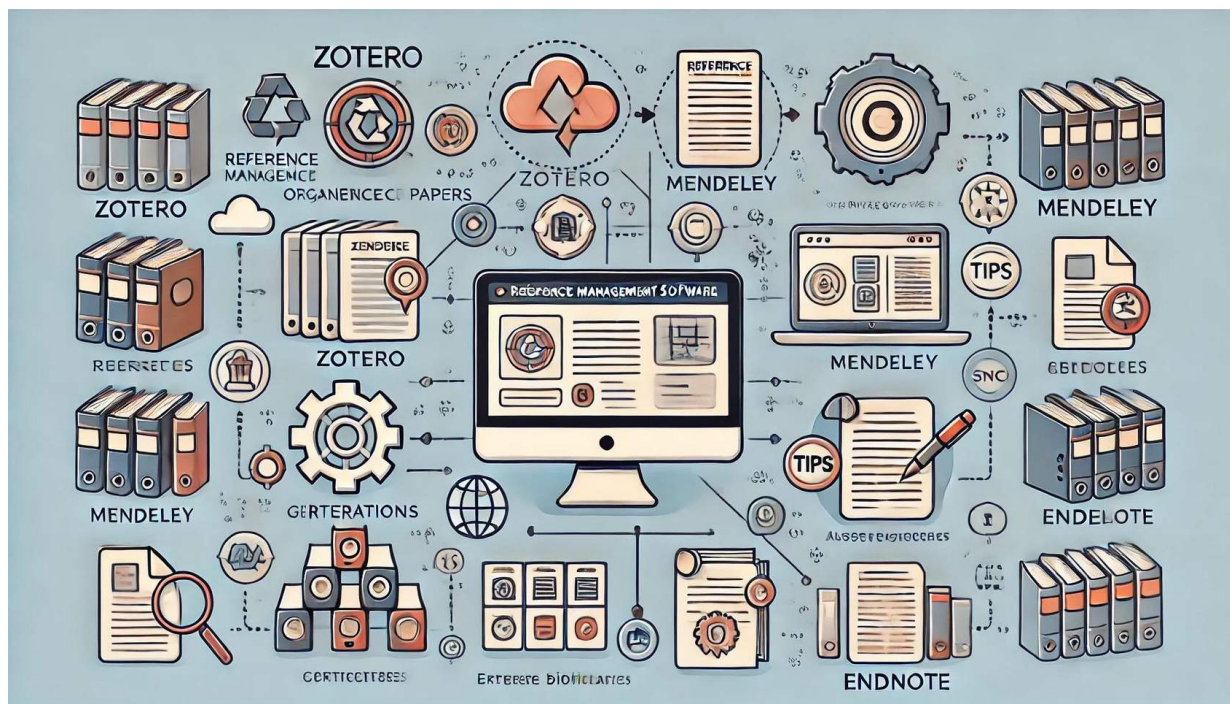
## 2. Employ Note-Taking Apps:

- ***Evernote, Microsoft OneNote, Google Keep:*** These apps help you take, organize, and search your notes. They often include features such as tagging, highlighting, and adding multimedia.
- ***Tips:***
  - Use tags and notebooks to categorize your notes.
  - Sync notes across devices to access them anywhere.
  - Incorporate images, links, and voice memos for comprehensive notes.



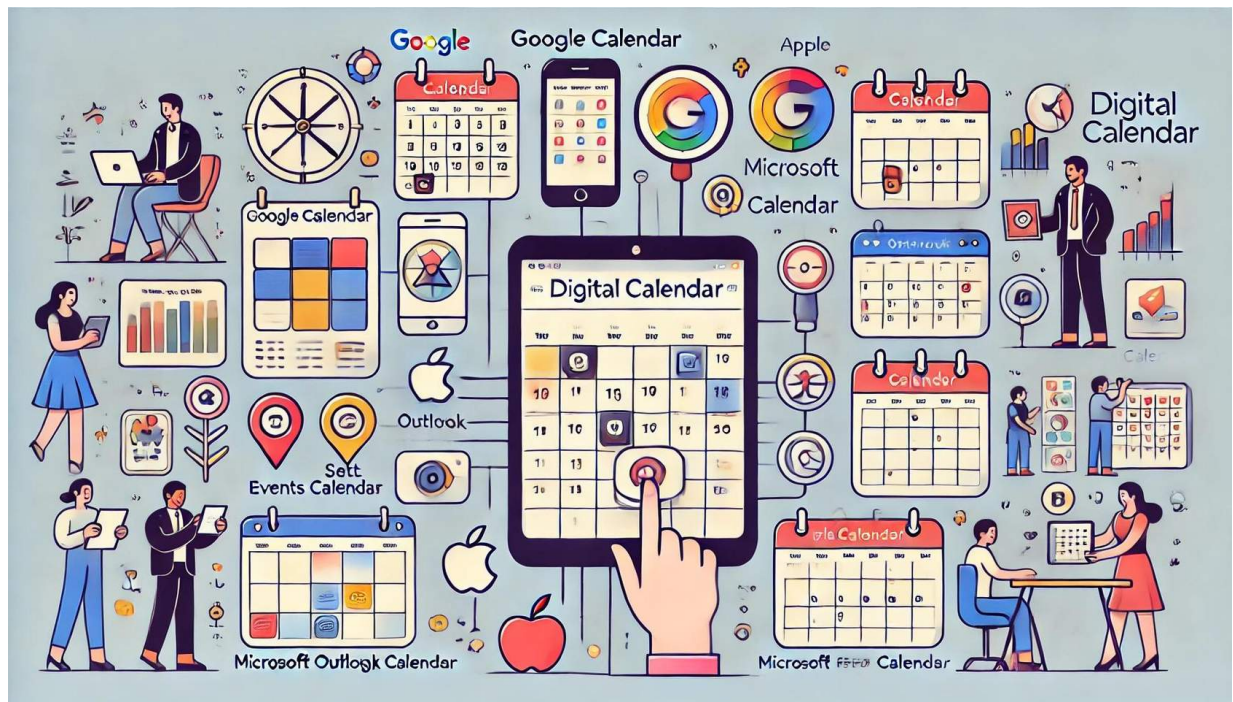
### 3. Utilize Task Management Tools:

- **Trello, Asana, Todoist:** These tools help you manage tasks and projects efficiently. They allow you to create tasks, set deadlines, assign tasks to team members, and track progress.
- **Tips:**
  - Break down large projects into smaller tasks.
  - Prioritize tasks and set realistic deadlines.
  - Use boards or lists to visualize the workflow.



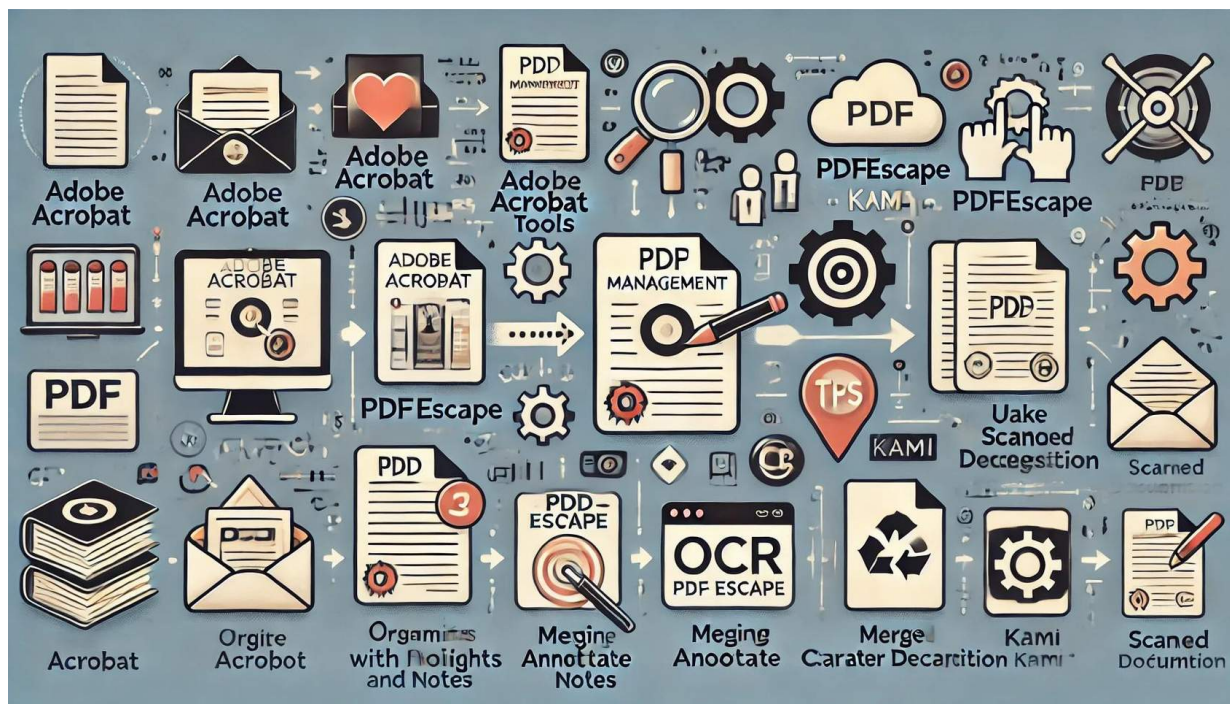
#### 4. Implement Reference Management Software:

- **Zotero, Mendeley, EndNote:** These tools help you organize research papers, generate citations, and manage bibliographies.
- **Tips:**
  - Import and organize references in a systematic way.
  - Use tags and folders for easy retrieval.
  - Sync your library across devices.



## 5. Leverage Digital Calendars:

- **Google Calendar, Microsoft Outlook Calendar, Apple Calendar:** Digital calendars help you schedule events, set reminders, and manage your time effectively.
- **Tips:**
  - Color-code different types of events (e.g., classes, meetings, personal tasks).
  - Set reminders for important deadlines.
  - Share calendars with classmates or colleagues for group projects.



## 6. Organize Digital Documents:

- **PDF Management Tools:** Use tools like Adobe Acrobat, PDFescape, or Kami to organize, annotate, and merge PDF documents.
- **Tips:**
  - Annotate PDFs with comments, highlights, and notes.
  - Merge related documents into a single file.
  - Use OCR (Optical Character Recognition) to make scanned documents searchable.



## 7. Use Bookmarking Tools:

- **Pocket, Diigo, Raindrop.io:** These tools help you save, organize, and tag online resources for later reference.
- **Tips:**
  - Create tags and folders to categorize bookmarks.
  - Save articles, videos, and webpages for offline access.
  - Use annotations and highlights to mark important information.

## Example Workflow:

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## **2. Note-Taking**

Store all class materials,

Use Evernote to take notes during lectures. Tag notes by subject and topic for easy retrieval.

## **3. Task Management**

Create a Trello board for each subject, listing tasks such as reading assignments, homework, and projects. Use due dates and checklists to track progress.

## 5. Digital Calendar

Save all research papers and

Schedule study sessions, class times, and assignment deadlines in Google Calendar. Set reminders to stay on track.

## 6. PDF Management

Annotate and highlight key points in PDF readings using Adobe Acrobat. Combine related readings into a single PDF for easy reference.

## 7. Bookmarking

Save useful websites and online resources in Pocket, tagging them by subject and topic for future reference.

### Self - study materials

#### **Books**

1. "How to Find Out Anything" by Don MacLeod - A guide to finding information online and in libraries.
2. "The Information Diet" by Clay A. Johnson - A plan for managing the digital information you consume.
3. "The Filter Bubble" by Eli Pariser - How personalized internet affects what we see online.
4. "Search Engine Optimization (SEO) Secrets" by Danny Dover - Insights into improving search engine results.
5. "The Joy of Search" by Daniel M. Russell - A Google insider's guide to becoming an effective searcher.
6. "Data Literacy: A User's Guide" by David Herzog - Practical advice on understanding and working with data.
7. "Net Smart" by Howard Rheingold - How to thrive online with better digital literacy.
8. "The Shallows" by Nicholas Carr - How the internet is changing the way we read, think, and remember.
9. "Web Analytics 2.0" by Avinash Kaushik - Understanding web data to make informed decisions.
10. "Information Retrieval: Implementing and Evaluating Search Engines" by Stefan Büttcher - A technical guide to search engines and data retrieval.

## **Websites**

1. Khan Academy - Computing - Free courses on computer science fundamentals.
2. Coursera - Data Literacy for All - An introduction to understanding data.
3. edX - Data Science Essentials - Essentials of data science, including data analysis and filtering.
4. **\*\*Google Search Education \*\*** - Learn how to search more effectively with Google.
5. Mozilla Web Literacy - Modules to enhance web literacy skills.
6. DigitalLearn - Free resources for improving digital skills.
7. W3Schools - Tutorials on web technologies and development.
8. Codecademy - Interactive learning for coding and data management.
9. The Great Courses - Understanding the Digital World - Courses on digital literacy.
10. Information is Beautiful - Data visualizations and insights.