Making Your PDF Accessible (the basics)

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Portable Document Format (PDF)

- Created by Adobe in 1990s to preserve visual format and allow easy sharing of documents

- Offers many accessibility features but must be deliberately incorporated

- Has a reputation of being difficult and frustrating to remediate

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PDF/Universal Accessibility (PDF/UA) Standards

- Technical standards for created accessible PDFs

- Based on WCAG 2.0 principles

- Follows the Matterhorn Protocol
  - 31 checkpoints for possible ways to fail PDF/UA

- WCAG and PDF/UA are similar with overlap and differences

How many measurable WCAG Guidelines are there to create accessible web content?

- 32

- 44

- 78

- 92

Does WCAG Apply to PDF?

The short answer is, yes.

The Basics of Accessible PDFs

1. **Optimize the source** document for accessibility

2. Save the file as a **tagged PDF**

3. Provide **metadata** for the PDF (such as document language)

4. **Create and edit tags** (similar to HTML tags)

5. Ensure the **reading order** is logical

6. Ensure the **tab order** is sequentially correct

7. Check PDF with **automated and manual testing** for accessibility

What are Tags?

- Invisible labels that provide significant information

- Critical for assistive technology

- Semantic structure of what the document is about and how it's organized

- Very important step to ensure accessibility

× **Accessibility tags**

- 🏷 <H1>
- 🏷 <H2>
- ¶ <P>
- ⊞ <Table>
- ¶ <P>
- 🏷 <H2>
- ¶ <P>
- ⊞ <Table>
- ¶ <P>
- ¶ <P>
- 🏷 <TOC>
- ¶ <P>

Remediation Flow of PDFs

General workflows for different scenarios

Easiest & Fastest:
Start with the source document ...

Optimize Source Doc → Convert to Tagged PDF → Add Metadata → Add/Edit Tags → Fine Tune Reading & Tab Order → Check Accessibility

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If you start with an untagged PDF file ... (and don't have the source)

Add Metadata → Add/Edit Tags (Auto/Manual) → Fine Tune Reading & Tab Order → Check Accessibility

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If you start with a paper or a scanned document ...

Scan document → Apply OCR → Add Metadata → Add/Edit Tags (Auto/Manual) → Fine Tune Reading & Tab Order → Check Accessibility

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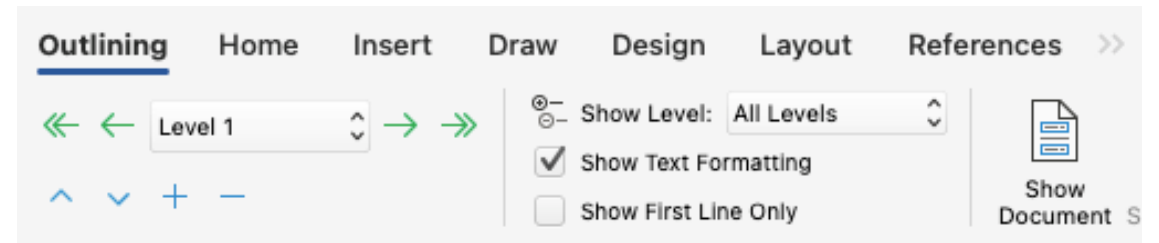DEPARTMENT OF
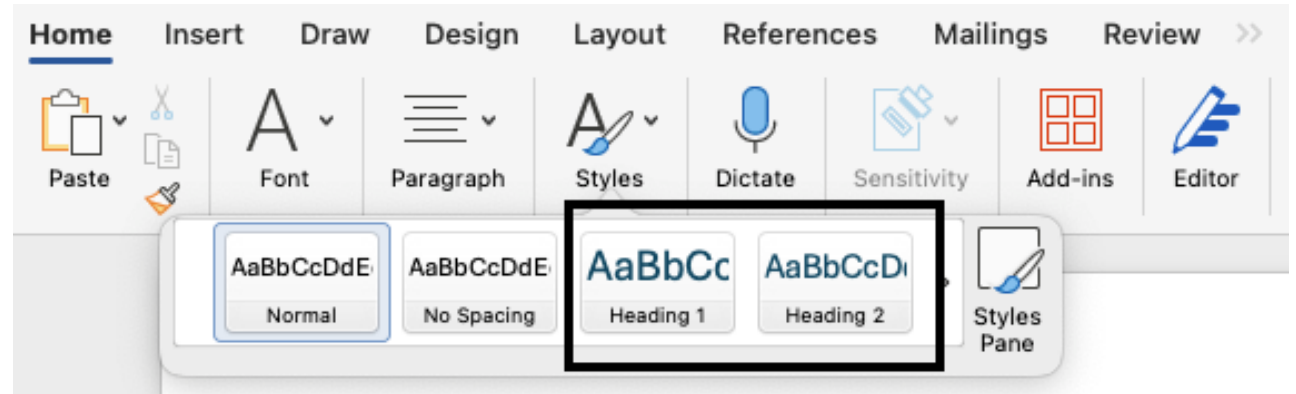INFORMATION
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Easiest & Fastest Route of PDF Remediation: Start with an Optimized Source File

- Real, semantic elements

- Headings

- Text

- Alternative (ALT) text

- Color contrast

- Links

- Tables

Headings

- Real, semantic headings
- Start at level 1
- Not skip any levels
- Logical outline of hierarchy
- Accurate, informative and concise

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Text

- Fonts are easily readable

- Line spacing is at least 1.5 within paragraphs

- Paragraph spacing is at least 1.5 times larger than line spacing
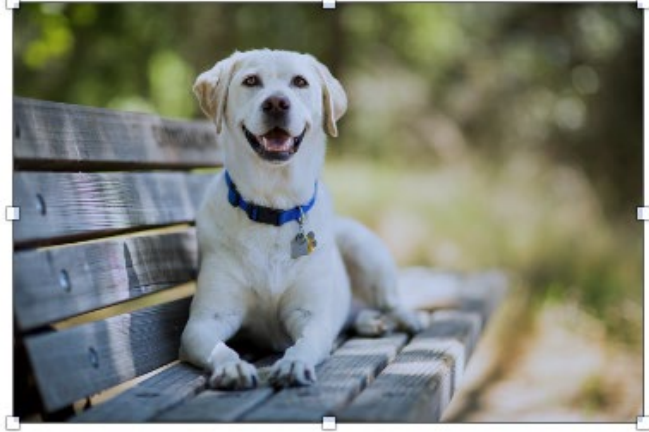
- Text is not fully justified

This is kind of hard to read, isn't it?

This font is clear and easy to read.

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Alternative (ALT) Text

- All meaningful images, graphs & charts, and other non-text content have alt text.

- Accurately conveys its purpose

- It is concise

- All meaningful non-text content has a long description when needed (for example: a complex graph)

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Color Contrast

- Text/Fonts
  - Regular text (18pt normal or 14pt bold)
    - Min. 4.5:1 ratio with the background
  - Large text (>18pt)
    - Min. 3:1 ratio with the background
- User Interface Components and Graphical Objects:
  - Min 3:1 ratio against adjacent colors
    - Buttons
    - Icons that convey information
    - Graph or chart components (ex. Graph lines/shapes)
    - Form field text boxes
- Colour Contrast Analyser

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Links

- Correctly designated
- Visually distinguishable
- Meaningful and not generic

Join our [Accessibility Community of Practice (A11y CoP)](#) today!

Tables

- Real tables

- Properly formatted

- Have table headings

- Simple tables (one header row and/or one header column)

  - Complex tables can be problematic to tag properly after PDF export
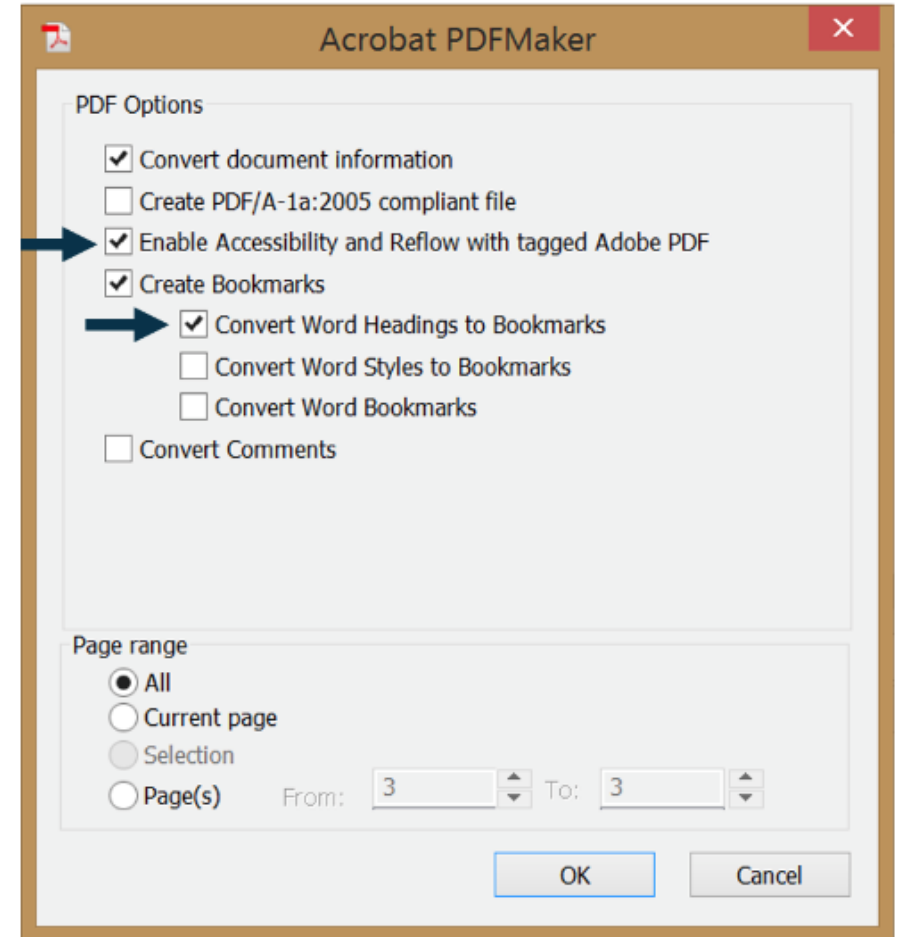
- No blank cells

Date	A11y CoP Topic
01-24-2024	Accessible PPTs
02-27-2024	Document A11y
03-26-2024	A11y Testing
04-30-2024	Plain Language
05-28-2024	DOJ Deep Dive Part 1
06-25-2024	DOJ Deep Dive Part 2
07-30-2024	Everyday Asst. Technologies
08-27-2024	Asst. Technologies Demo
09-24-2024	Alt Text

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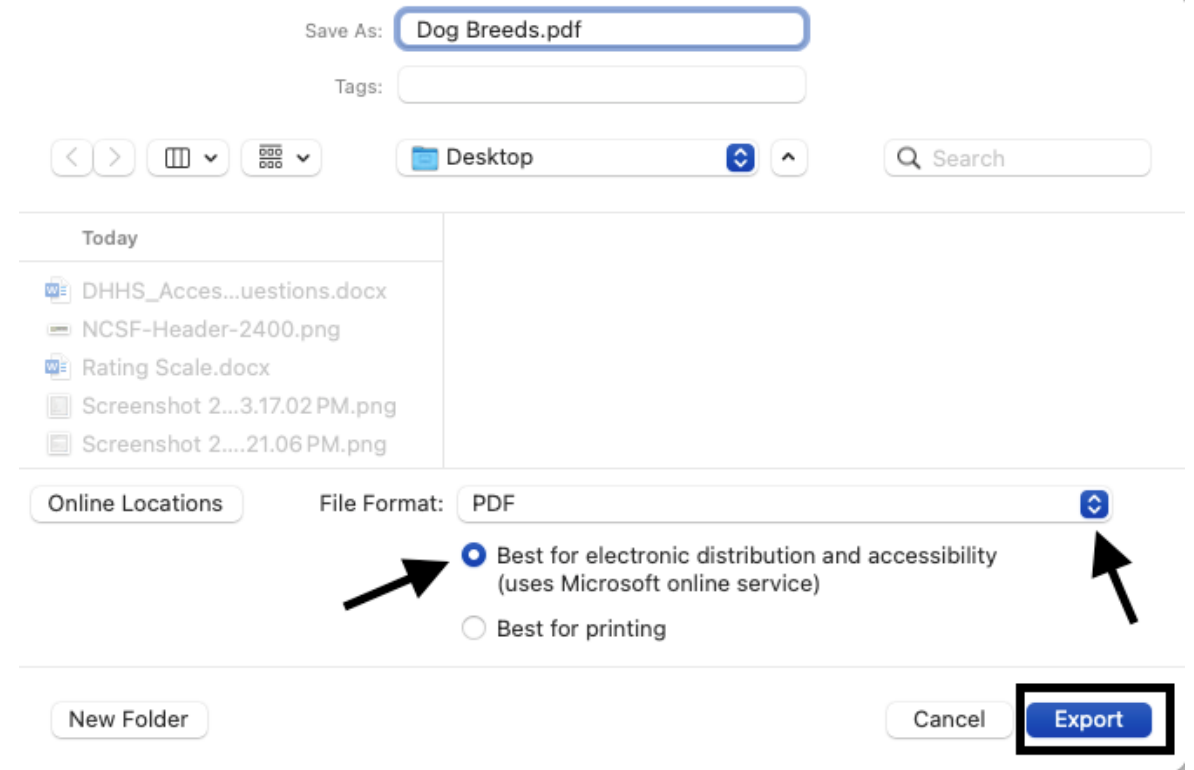# Converting Optimized Source File to Tagged PDF

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Saving as Tagged PDF from Word in Windows

1. Select **File** > **Save as Adobe PDF**

2. In the pop-up dialog, select **Options**

3. Ensure **Enable Accessibility and Reflow with tagged Adobe PDF** is checked

4. Leave option **Convert Word Headings to Bookmarks** selected
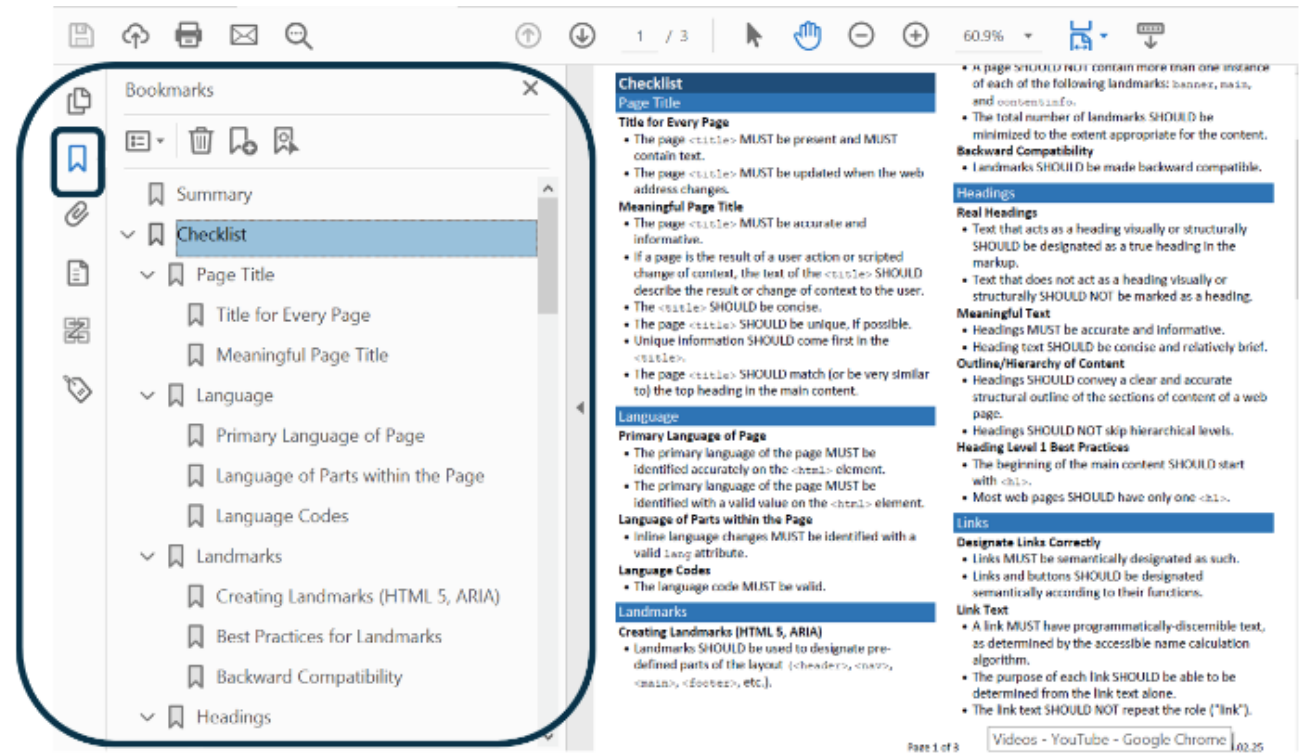
5. Select **OK**

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Saving as Tagged PDF from Word in Mac

1. Select **File** > **Save as**

2. In the File Format drop-down menu, select **PDF**

3. Select the **Best for electronic distribution and accessibility** radio button

4. Select **Export**

Save As: Dog Breeds.pdf

Tags:

Desktop

Search

Today

- DHHS_Acces...uestions.docx
- NCSF-Header-2400.png
- Rating Scale.docx
- Screenshot 2...3.17.02 PM.png
- Screenshot 2....21.06 PM.png

Online Locations   File Format: PDF

○ Best for electronic distribution and accessibility (uses Microsoft online service)

○ Best for printing

New Folder   Cancel   Export

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What are PDF Bookmarks?

- Bookmarks are generated automatically

- Based on heading structure

- A convenient way to jump to sections

Image credit: Deque

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Untagged PDF Conversions

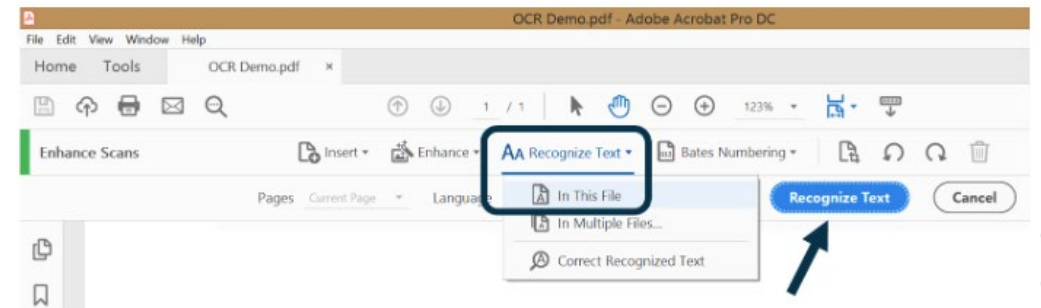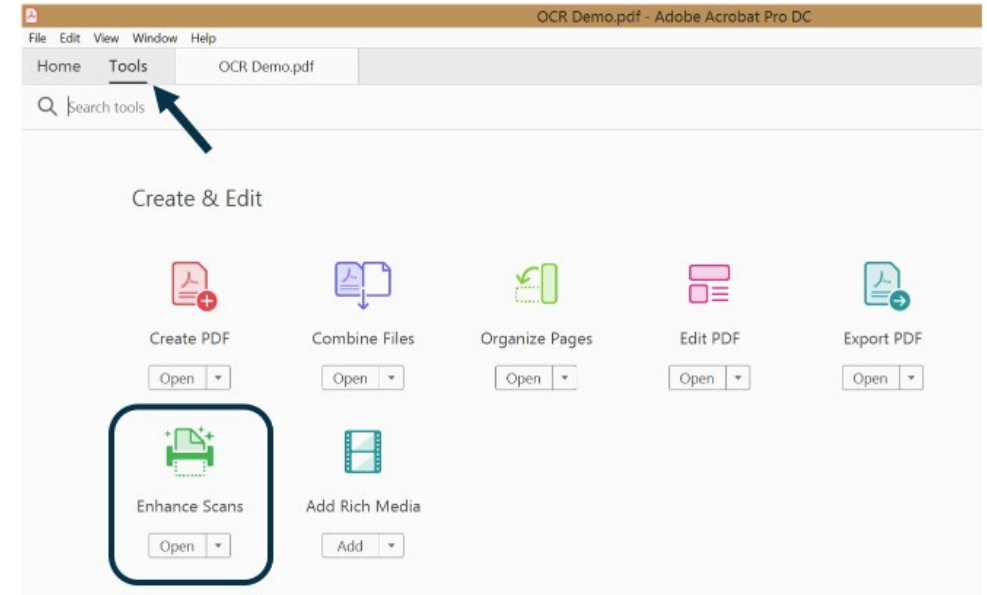Beware! Takes time and effort

Ways to Produce Inaccessible, Untagged Results Examples

- **Scanning a document** produces a single image

- Using **Print** > **Save as PDF** from a document or webpage

- Options within Acrobat such as create PDF from scanner, screenshot, webpage, or clipboard.

Scan PDFs with Optical Character Recognition (OCR)

Acrobat Pro DC has a built-in OCR text recognition tool

- Open file, go to **Tools** > **Create & Edit** section > **Enhance Scans** > **Recognize Text** > **In This File**

- Select **Recognize Text**

- Adjust reading and tab order as needed

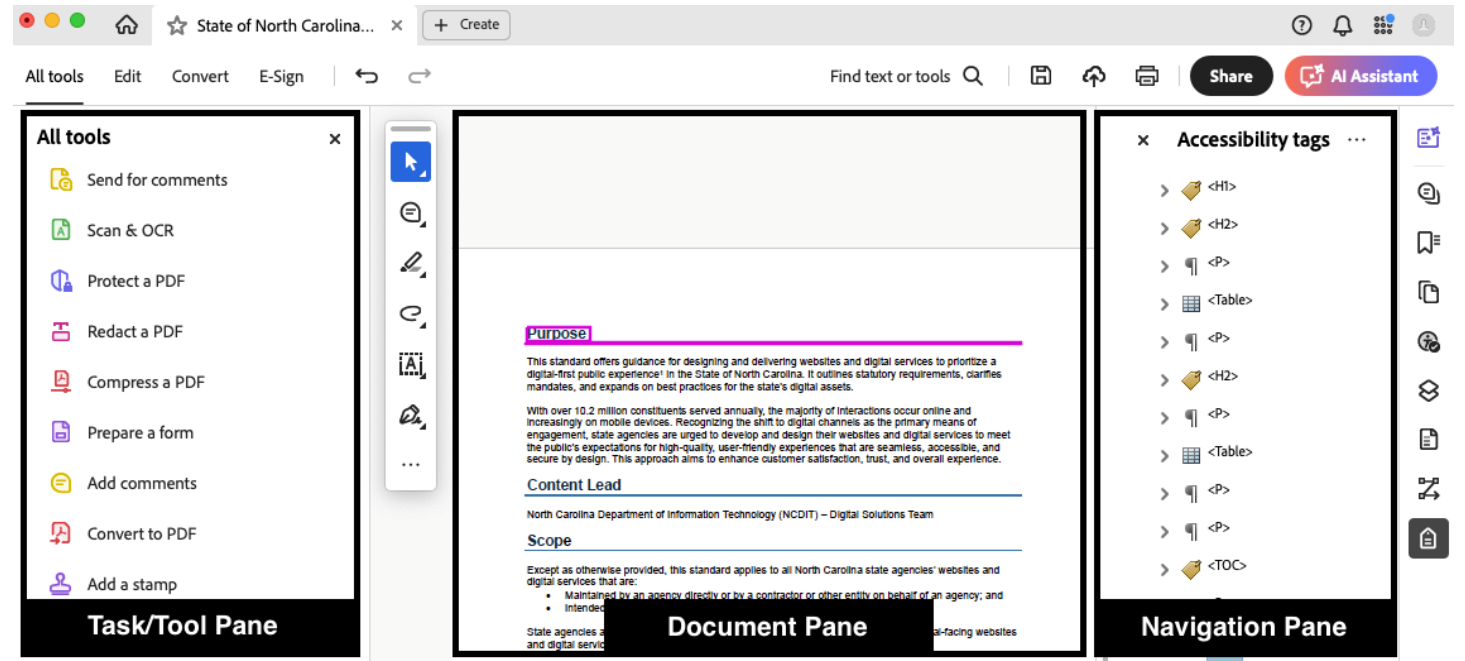NCDIT
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Reading Order, Tab Order and Metadata

Acrobat Pro is required for PDF remediation

The Acrobat Pro Interface

View > Show/Hide > Navigation Panes
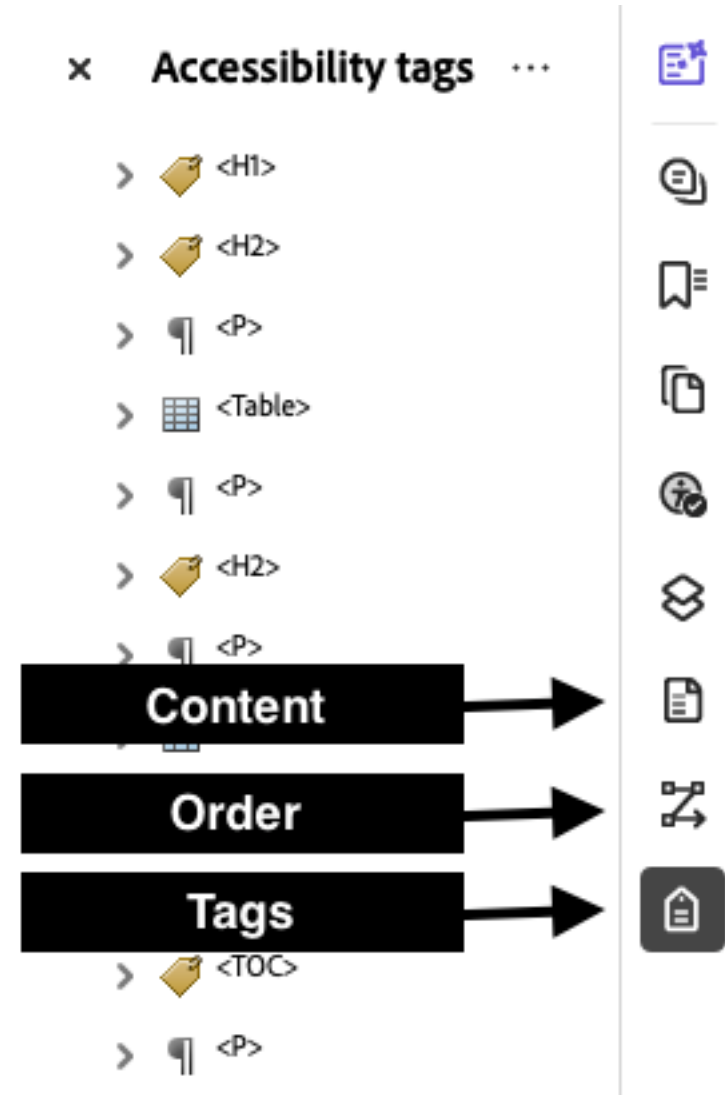(**Side Panes** on Mac)

- Navigation Pane

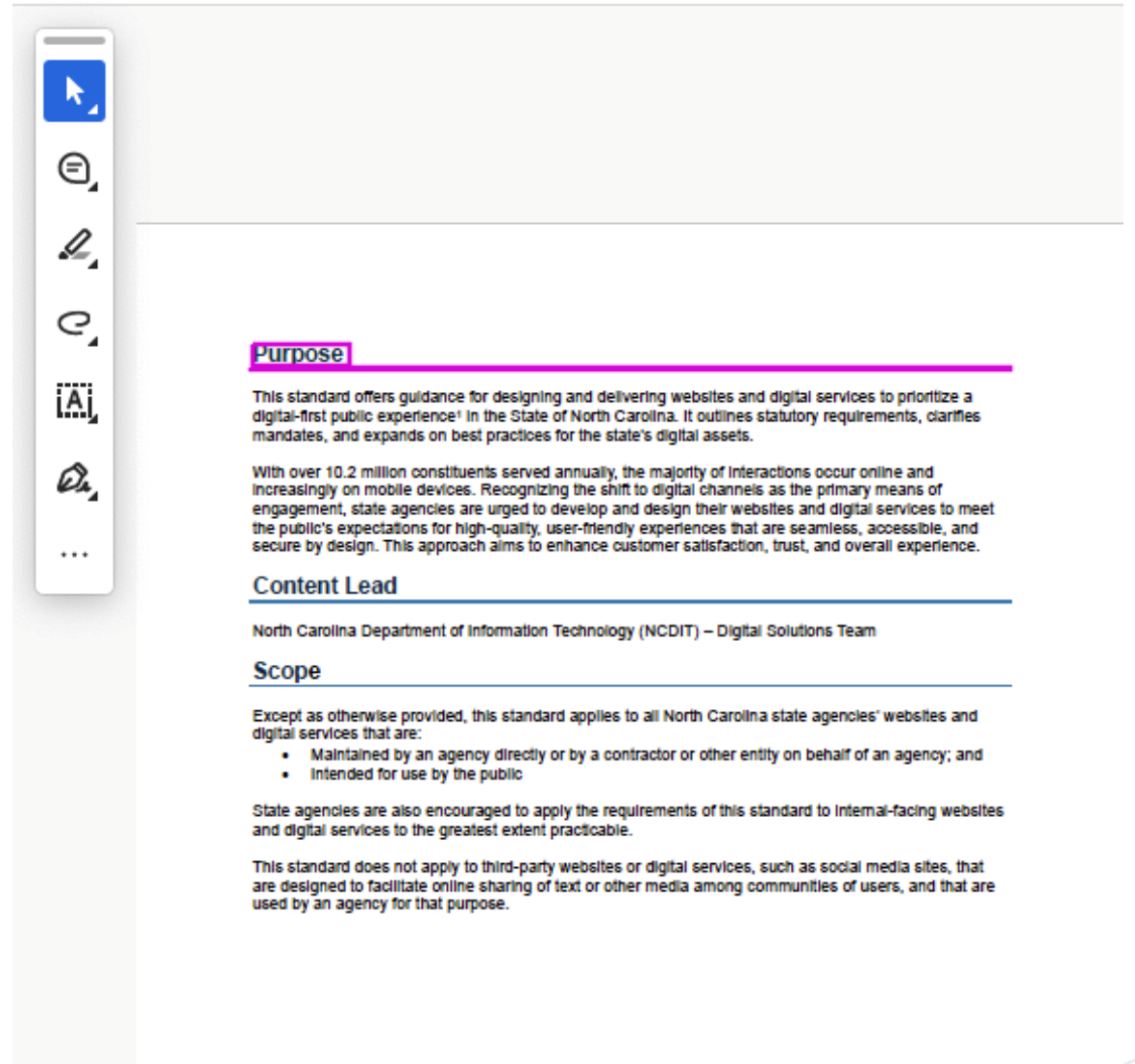- Document Pane

- Tasks Pane

Navigation Pane

Most important panes relevant to accessibility

- Content
- Order
- (Accessibility) Tags

Document Pane

- Main area which the document is displayed

- Select text in this pane to tag or highlight previously tagged text

Tasks Pane

- Includes the Accessibility tools
  - Reading Order Tool
  - Full Check

Convert to PDF

Add a stamp

Use a certificate

Use print production

Measure objects

Compare files

Add rich media

Use guided actions

Prepare for accessibility

Apply PDF standards

< Prepare for accessibility ✕

Automatically tag PDF

Automatically tag form fields

Change reading options

Check for accessibility

Open accessibility report

Identify form fields

Add alternate text

Use setup assistant

Fix reading order

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Reading Order

- After tagging document, check content order by using **Tags** and **Order** navigation panes.

- Key Points:

  - Changing **Tag** order in the **Tag Pane** does not affect the visual stacking order

  - Checking the **Order** in the **Order Pane** affects the *tag* order.

Working in the Order Pane

- Moving items in the **Order Pane**, moves tags in the **Tag Pane**

- Changing order in the **Order Pane**, changes the visual stacking order

- Numbering relates to the stacking order – **not** screen reader reading order

- You may need to use the **Tags Pane** to fix order of multiple tags next to each other

Working in the Tags Pane

- For simple documents, easiest way to define screen reading order is within **Tags Pane**

  - For documents more focused on visual presentation, you may need to use the **Order Pane** to fix the reading order
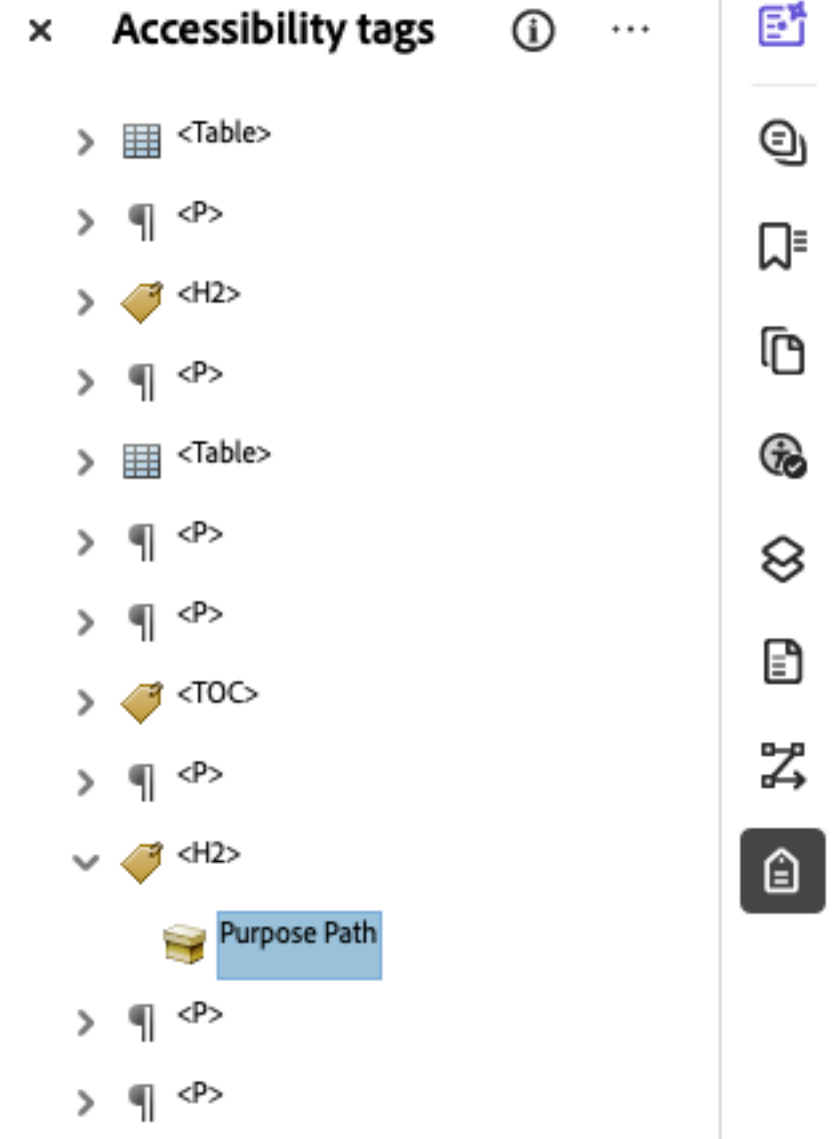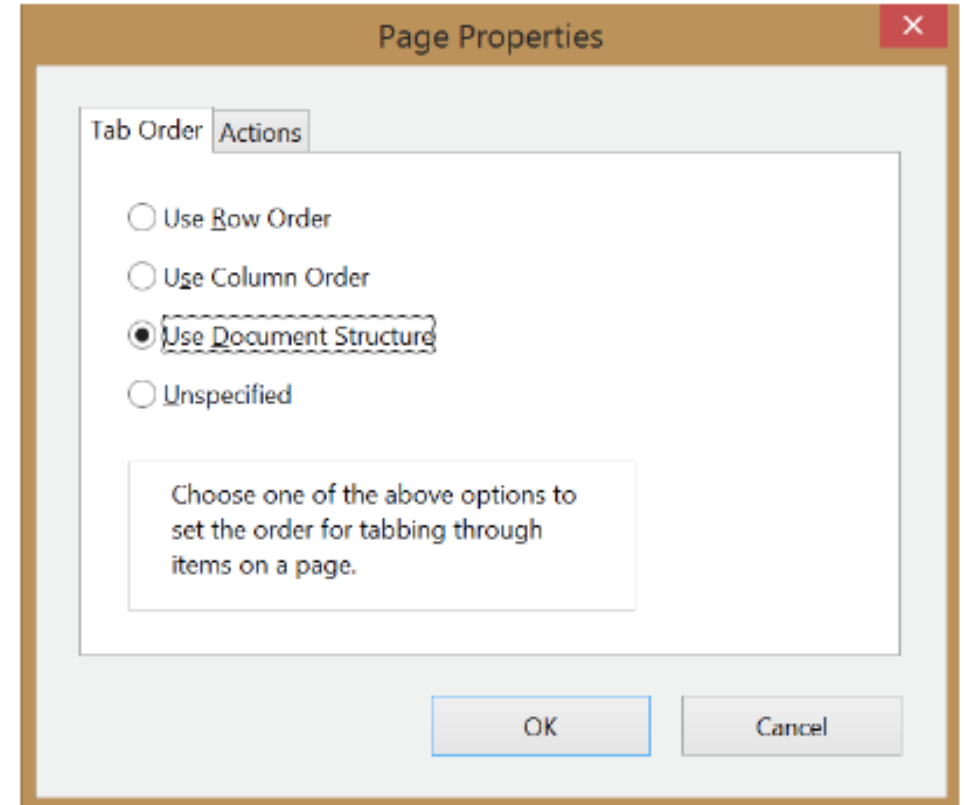
- Analyze your content

  - Headings should be read before its associated content

  - In long quotes, with speakers name at bottom, it's better to read it first for screen readers to know who the quote is from

  - If content refers to footnotes, sometimes it's appropriate that they are read immediately following the associated content rather than at the end.

- Arrange tags in a logical reading order (drag/drop)

× **Accessibility tags** ⓘ ⋯

- ▸ ▦ \<Table\>
- ▸ ¶ \<P\>
- ▸ 🏷 \<H2\>
- ▸ ¶ \<P\>
- ▸ ▦ \<Table\>
- ▸ ¶ \<P\>
- ▸ ¶ \<P\>
- ▸ 🏷 \<TOC\>
- ▸ ¶ \<P\>
- ▾ 🏷 \<H2\>
  - 📦 Purpose Path
- ▸ ¶ \<P\>
- ▸ ¶ \<P\>

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Tab Order

Documents with links or form fields must have tab order defined

- Open the **Page Thumbnails Pane**

- Select all thumbnails in the navigation pane (Control + Click)

- Right-click one of the active thumbnails, select Page Properties

- On the **Tab Order** tab, confirm **Use Document Structure** is selected and click **OK**.
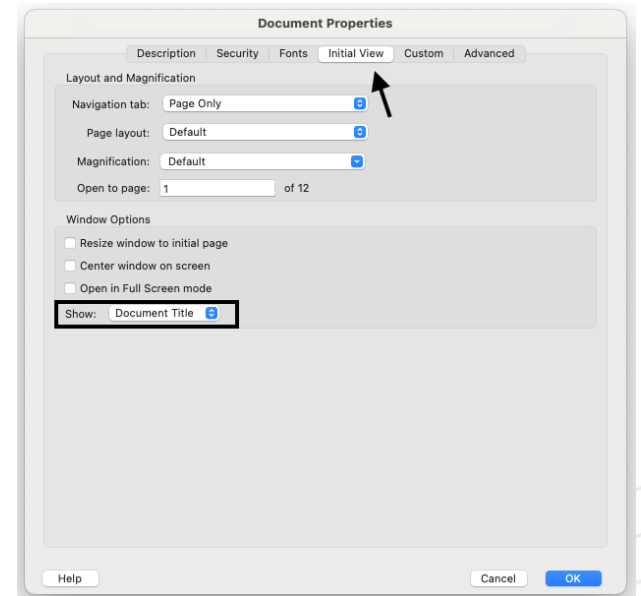
Document Metadata

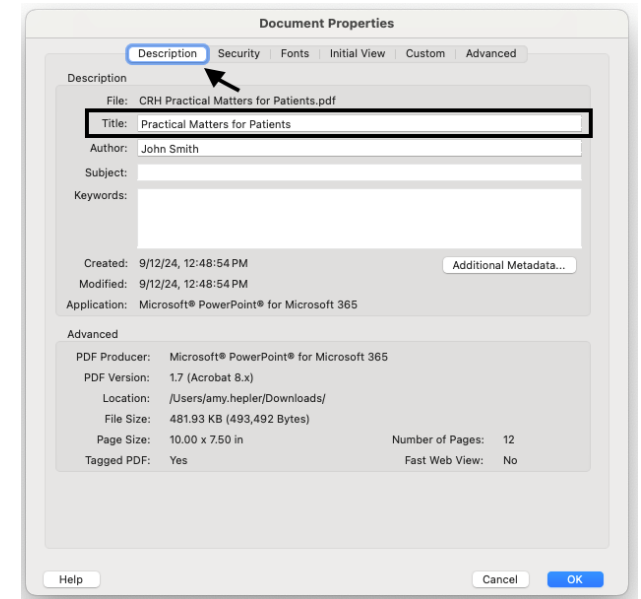Document Title and Language

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Document Title

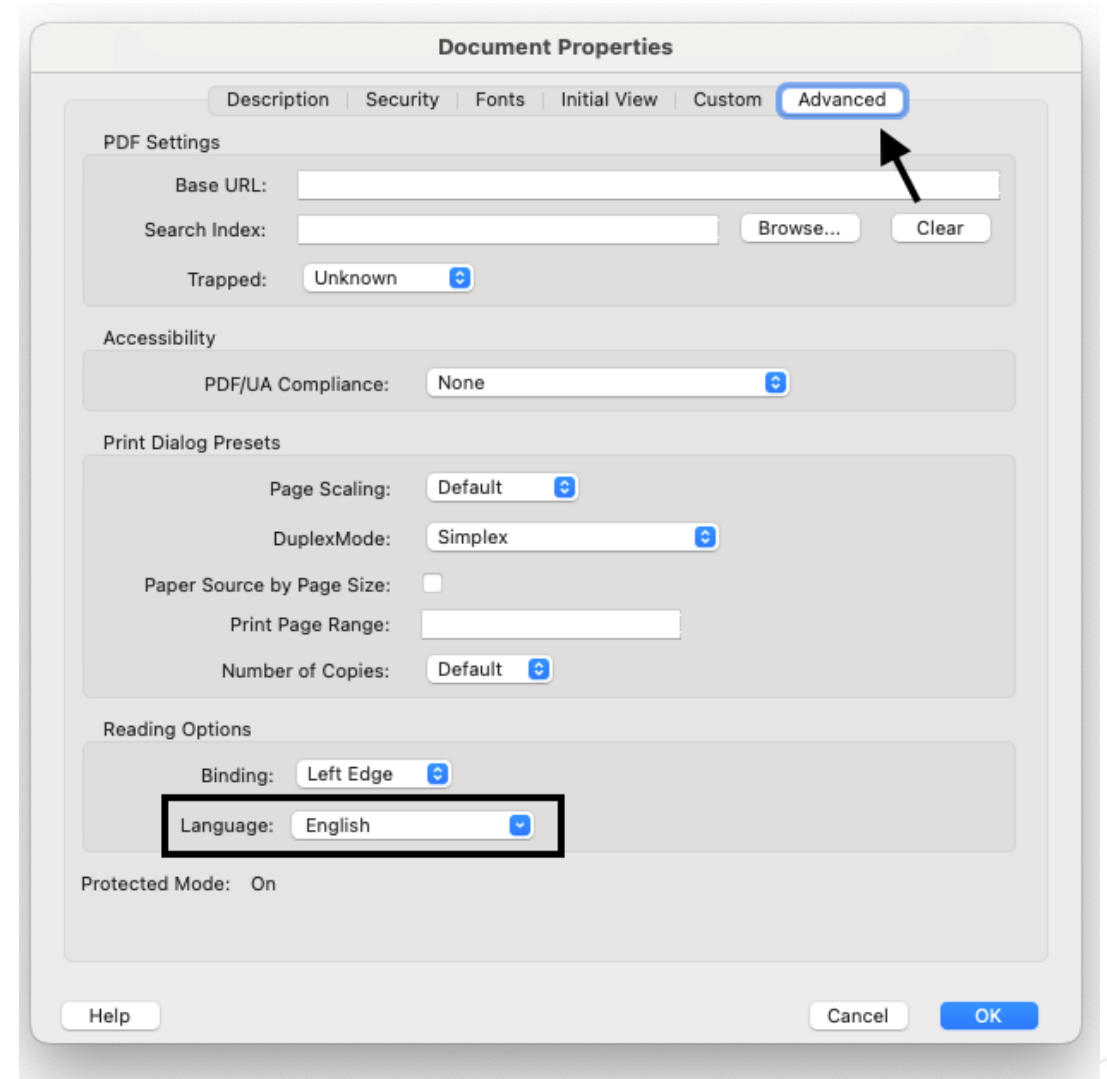First information read to screen reader users

- Go to **File** > **Properties**

- Under the **Description** tab, add the title in the **Title** field

- Next, go to the **Initial View** tab

- Under **Windows Options** > **Show** section, select **Document Title** from the drop-down menu.

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Document Language

Specify document language for screen readers to read correctly

- Go to **File** > **Properties**

- Under the **Advanced** tab, in the **Reading Options** section, select the appropriate **Language** from the drop-down

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True or False?

Acrobat Pro is required to fix accessibility issues in PDFs.

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Where is the Tags Pane in Acrobat?

A. In the Navigation Pane

B. In the Document Pane

C. In the Tasks Pane

Re-ordering content in the Order Pane can significantly rearrange the tag order in the Tags Pane

True or False?

The numbering shown in the Order Pane is:

A. The screen reader reading order

B. The visual stacking order of different content layers

C. Both A and B

Tab order refers to:

The order in which …

A. A screen reader will announce headings
B. A user tabs from one image to the next
C. A user tabs through links and form fields

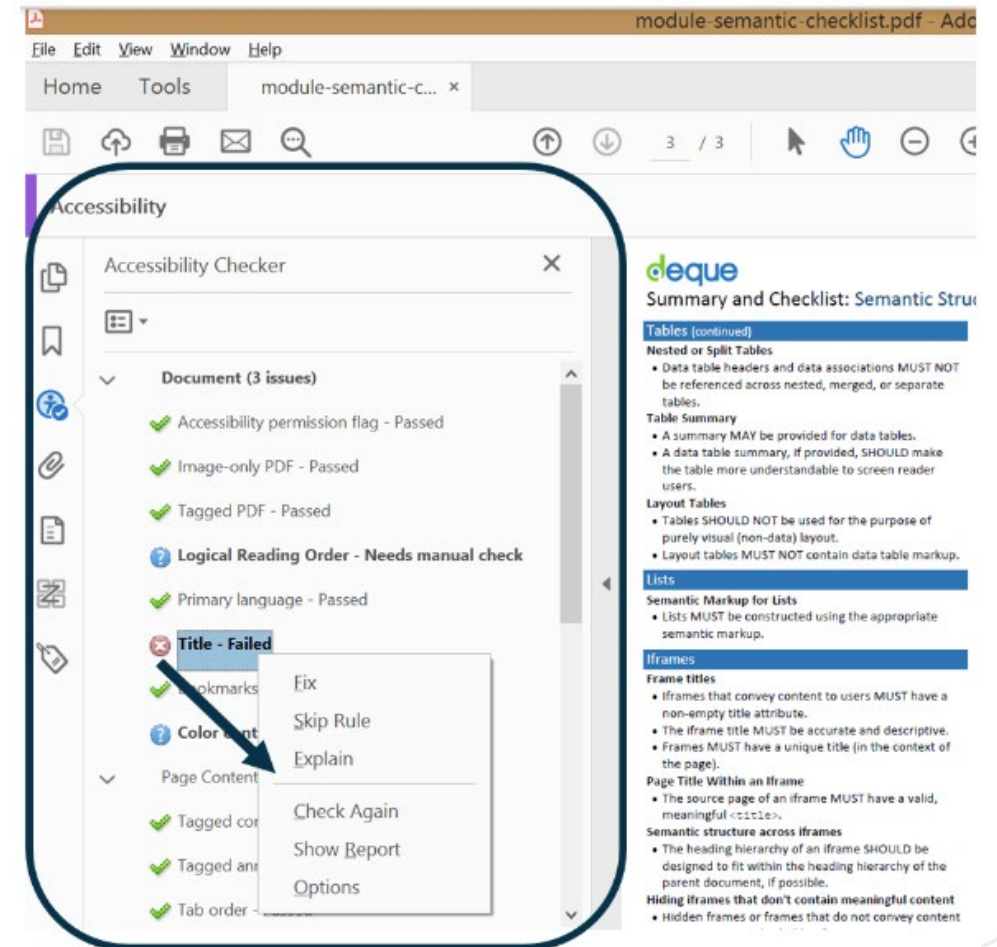# What happens if you don't specify the document language for a PDF?

The screen reader will …

A. Read the document using the pronunciation of its default language

B. Automatically detect the language and read it correctly

C. Prompt the user to select which language they'd like the PDF to be read in

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Assess Your PDF

Automated, Manual, Assistive Technology

Acrobat Pro DC Full Check

- Go **Tools** > **Accessibility** > **Full Check**

- Leave all Checking Options selected

- Select **Start Checking**

- Note: Even if the full check tool doesn't find any issues, you should still check manually.

https://helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html

Image credit: Deque

Manual testing of a PDF is not necessary if you use a quality automatic tool.

True or False?

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