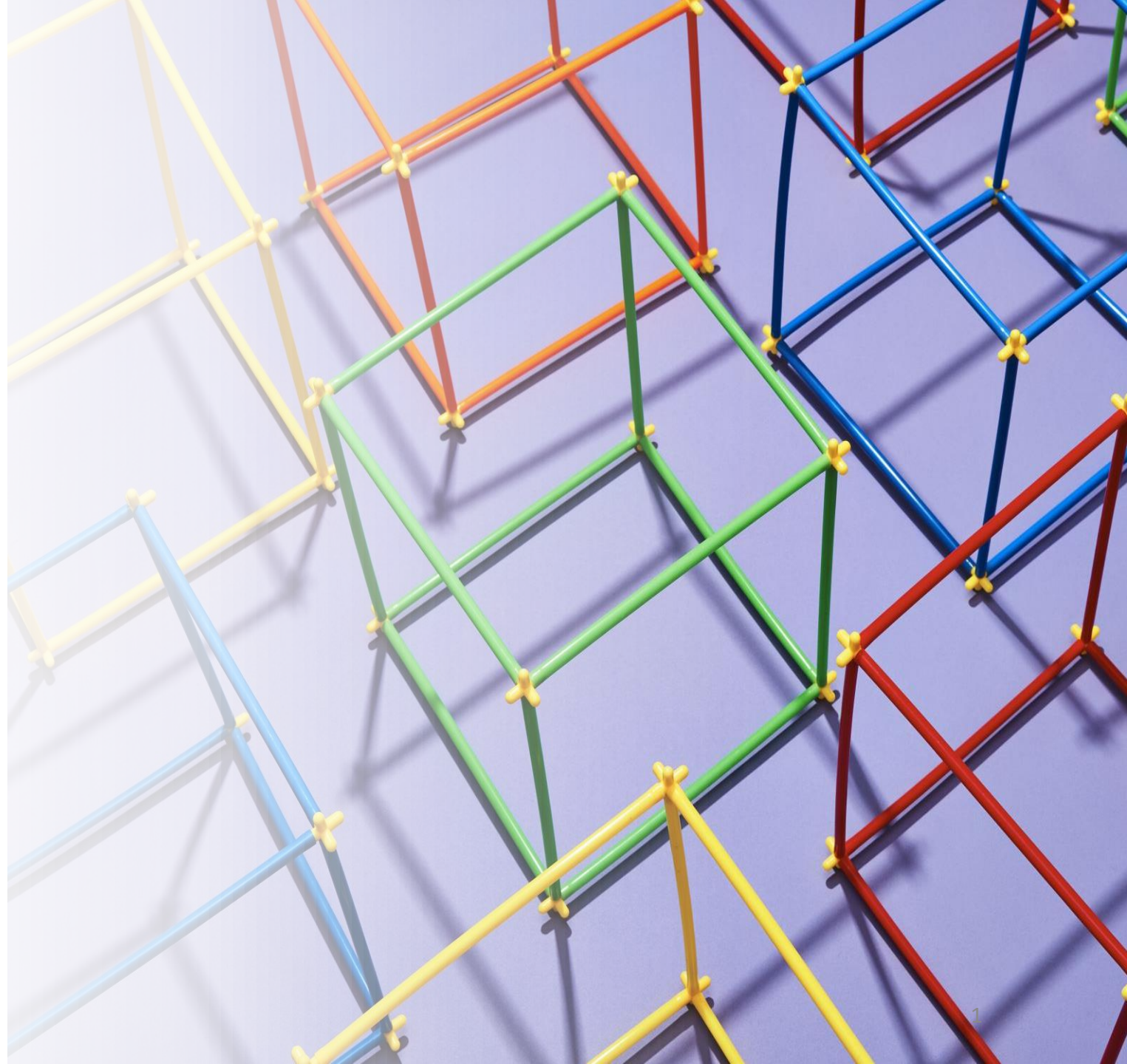




# Adobe PDF Accessibility and Remediation

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Prepared by  
**Technology Crest Corporation**



# Agenda

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Introduction to PDF Accessibility and Disability Types

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PDF Overview

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Adobe Setup and Navigation Pane Buttons

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PDF Remediation - Getting started

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Key Remediation tasks, Reading Order Panel tool

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PDF Meta Data, Tags naming conventions

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Bookmarks, Order, Tab Order, Tables, Links

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PDF Security Settings and Accessibility Testing

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Questions and Open session

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# Introduction to PDF Accessibility

- Centers for Disease Control and Prevention estimates 27% adults in the USA have some type of disability<sup>1</sup>.
- Physical Access (to buildings, elevators, public facilities, transportation, shopping malls and restrooms) is just one aspect of accessibility
- ADA Compliance is mandatory (public and private entities)
- CA, FL and NY contribute to >50% of ADA Lawsuits filed
- CA State laws allow plaintiffs to add monetary claims for damages to requests for injunctive relief in lawsuits filed under the ADA

Source: 1 <http://dhds.cdc.gov> 05/15/2023

# Disability Types

Vision



Auditory



Motor/Physical



Cognitive

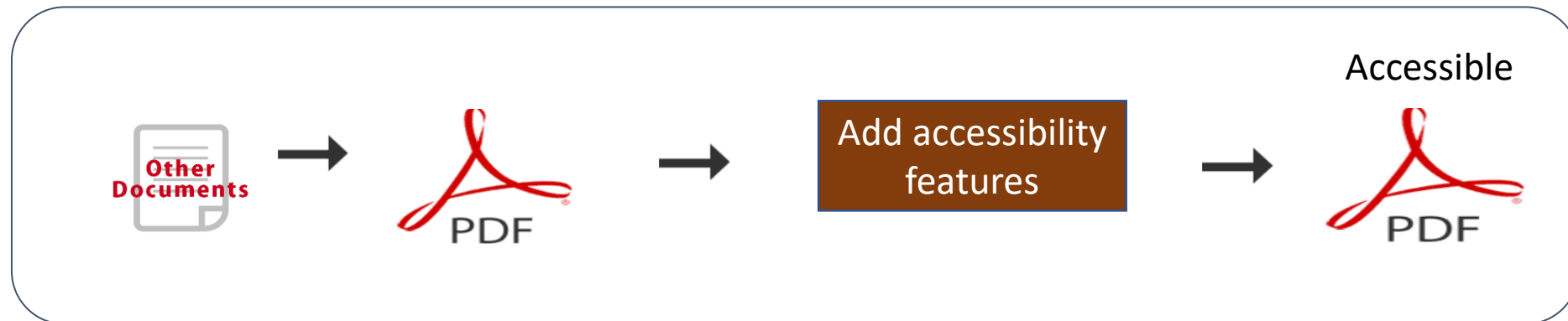


Seizure



# Portable Document Format (PDF) - Overview

- PDF is the end format not the authoring tool
- Automatically generated PDFs are not Accessible
- PDF documents need to be remediated to make them accessible
- PDF remediation is the process of adding accessibility features to a document

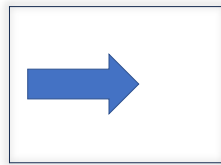




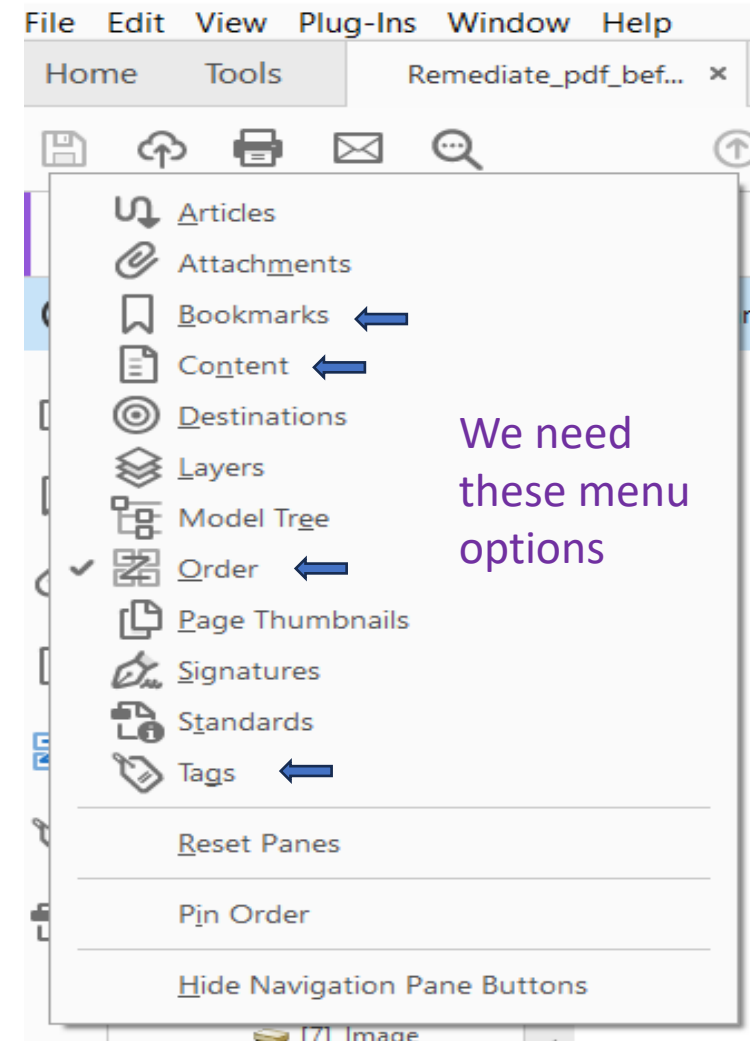
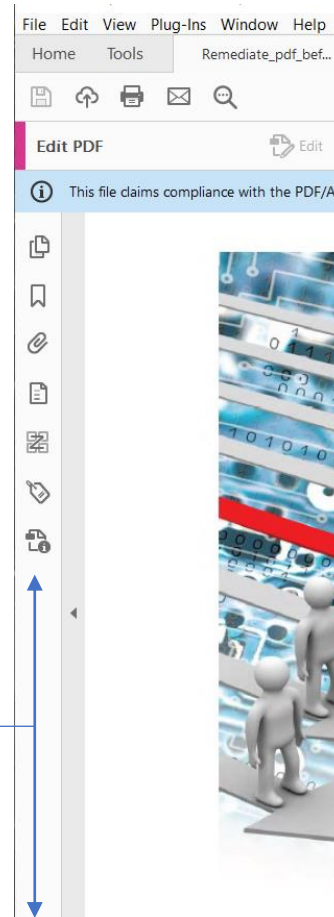
# Adobe set up and Adding navigation pane buttons

1. One time setting

2. Right click on panes and add navigation buttons

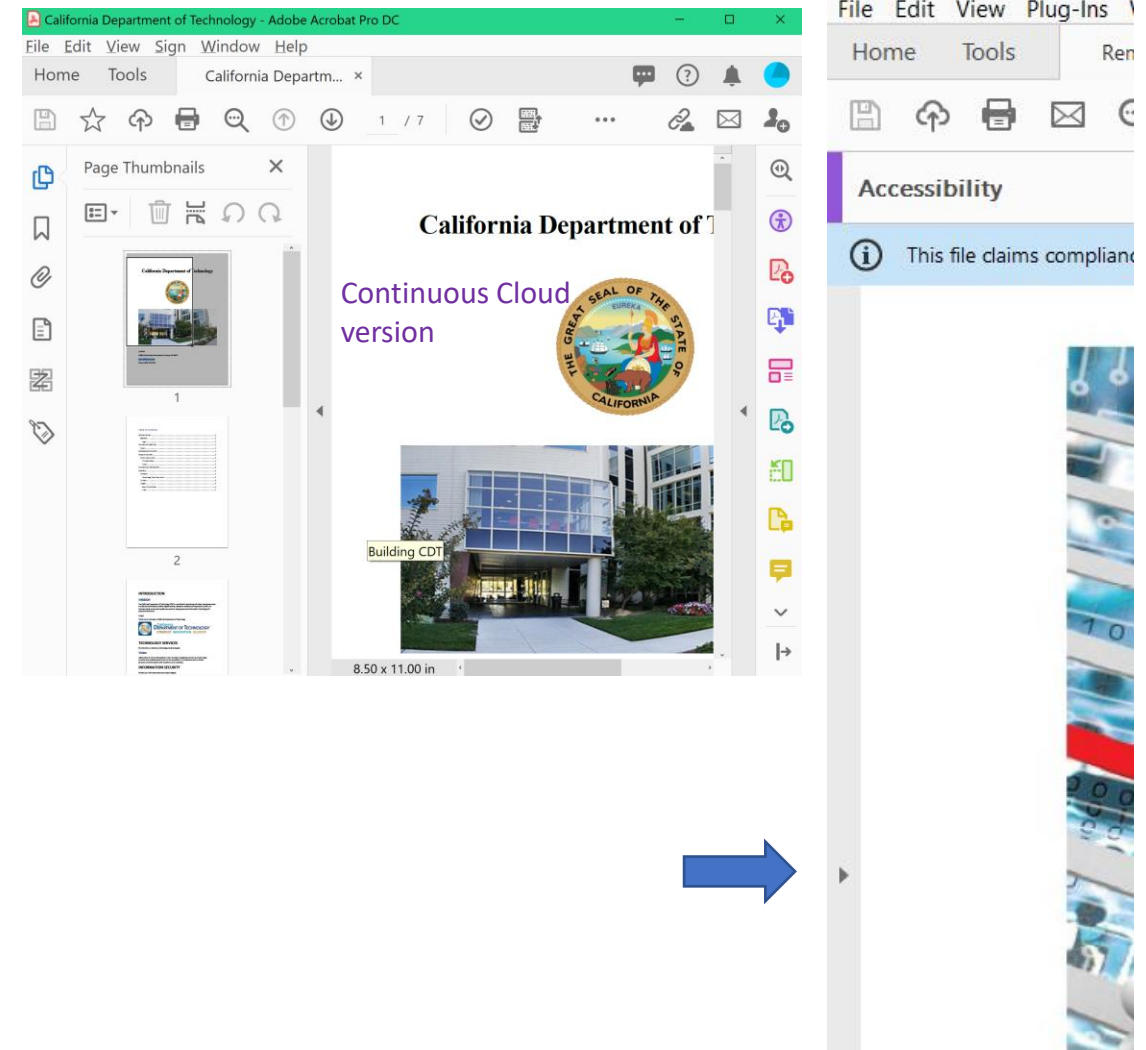


3. Right click anywhere on the blank area



# PDF Remediation: Getting started

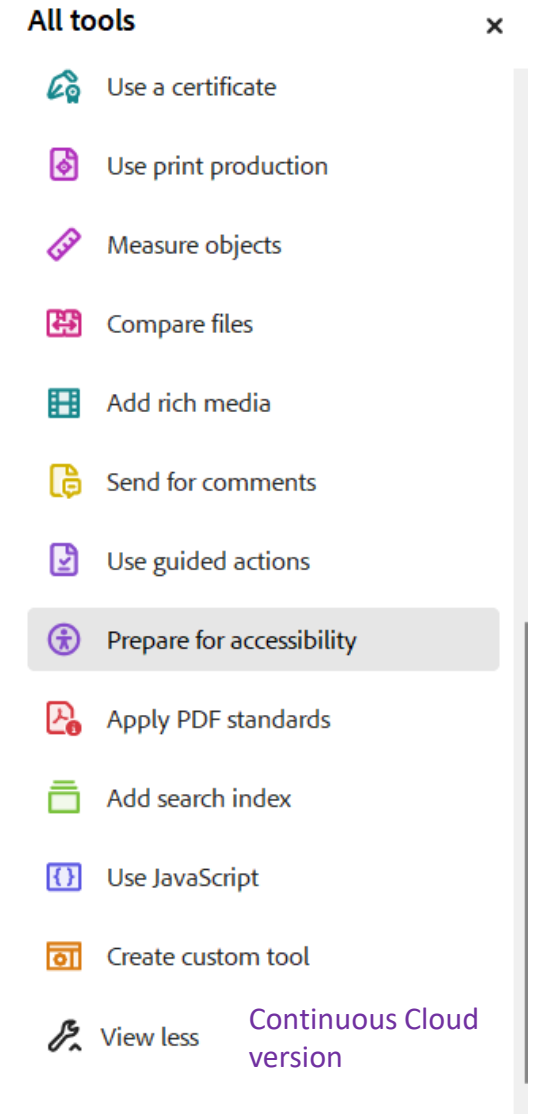
1. Setup Adobe Pro on your system
2. Accessibility tools and Navigation items
3. May be displayed differently due to versions of Adobe Pro
4. Open a PDF document with Adobe Pro
5. Click on File -> Menu -> Tools -> Accessibility



NOTE: Varies based on versions of Adobe PRO DC

# Getting Started: Open PDF

- Adobe Pro DC continuous release version
- Open a “PDF” Document with Adobe Acrobat Pro DC
- Open the File
- Check for Menu
- All Tools
- Prepare for Accessibility





# Remediating an Untagged PDF

- Check if you can access the source document – applies to complex docs
- Saves time to fix accessibility items in the word doc than fixing them in the PDF
- Auto tag document, helps with 70% of your remediation effort
- Remaining needs manual fix (depends upon the document structure)
- Manual fix option can be used when your doc is very old, has approval signatures, important notations, and for scanned contents that appear not so clear

# Key Remediation Tasks



Reading order and color contrast items – needs a manual check



Tables – simple and complex types (used for data and to provide structure to a content)



Figures – provide alt text or tag them as artifacts



Lists – ordered (when numbered) or unordered (bullet points) types



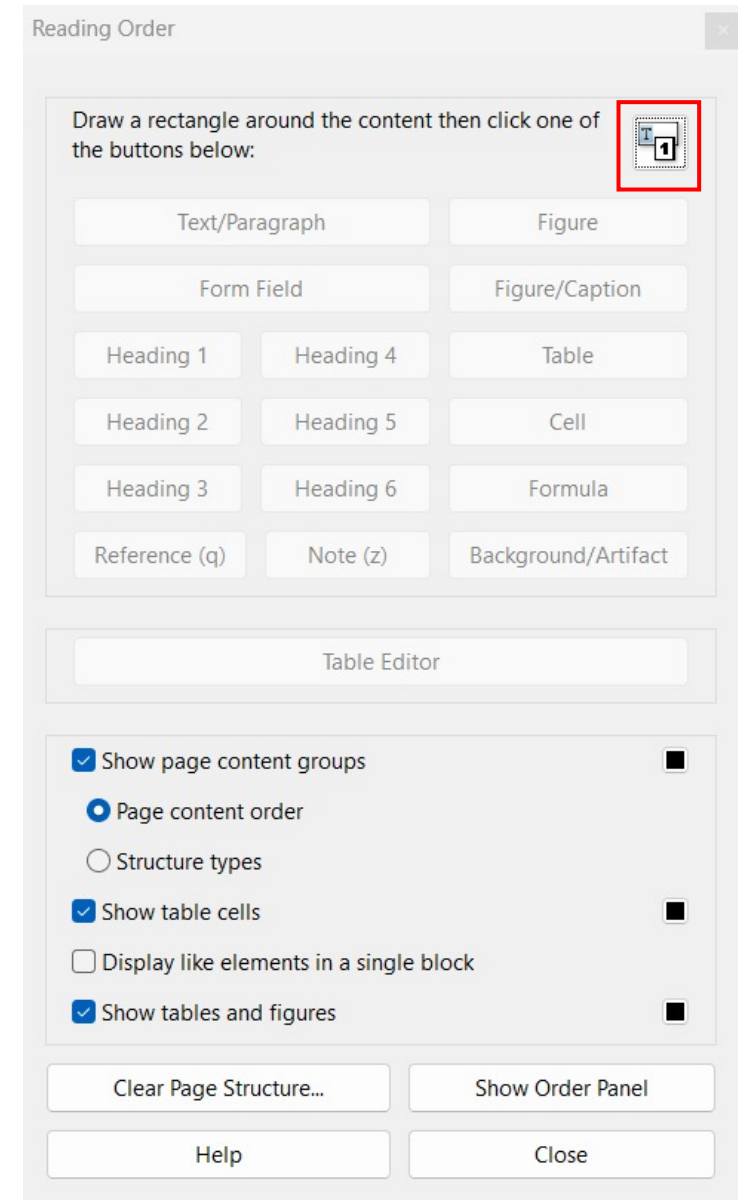
Hyperlinks – check if the links are working



Extract scanned pages and tag them separately (using OCR)

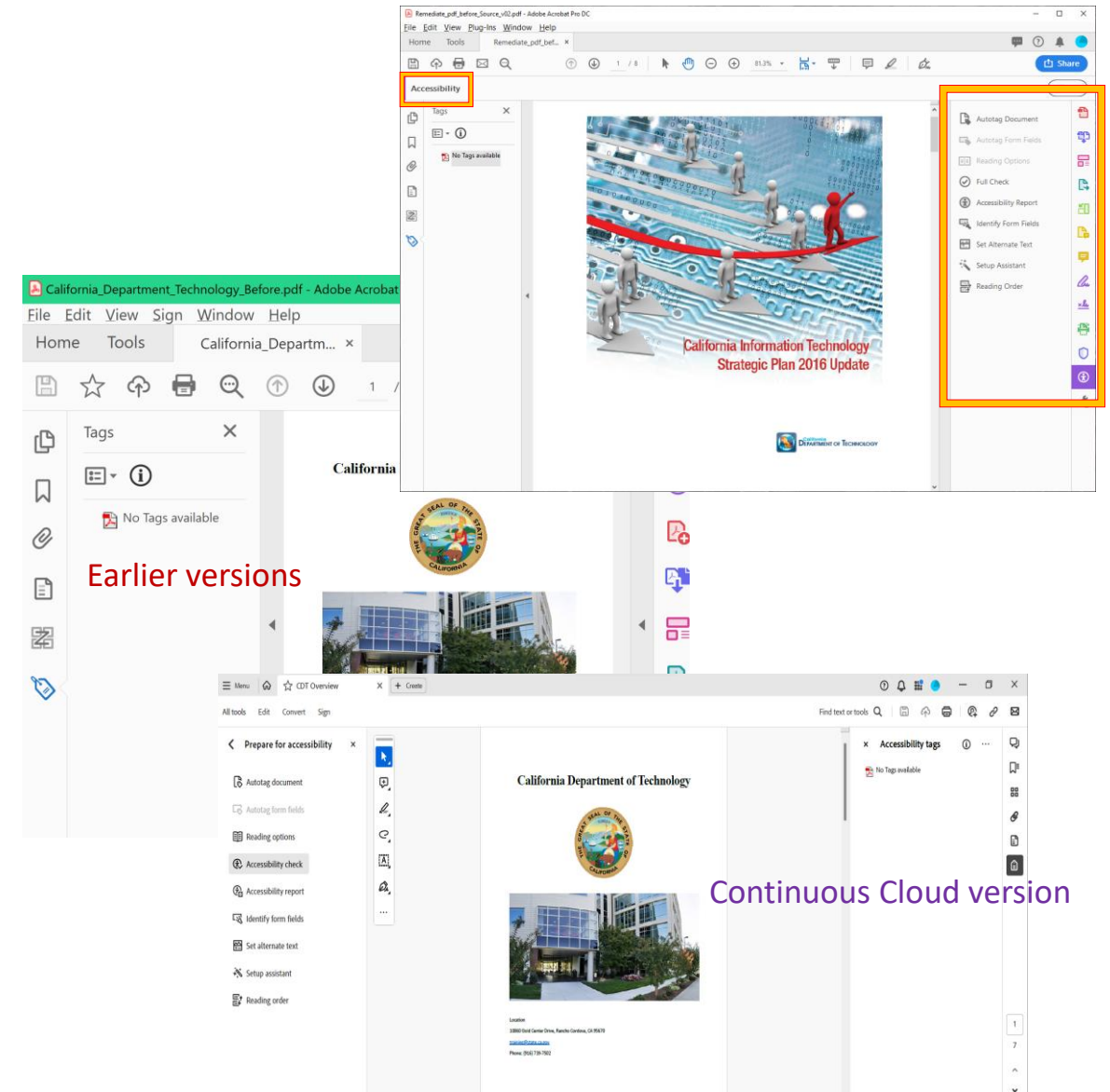
# Reading Order panel

- Pick tag elements as shown on the touch up reading order panel
- Show page content groups
  - Page content order
  - Structure types
- Show table cells
- Display like elements in a single block
- Show tables and figures
- Clear page structure
- Show order panel



# Untagged PDF

- No tags available indicates that the document is not accessible and not ADA compliant.
- Screen readers and Assistive Technologies may not be able to access untagged PDF contents.
- The cloud version shows the tags in the Right side and the Adobe Pro DC version shows in the left side



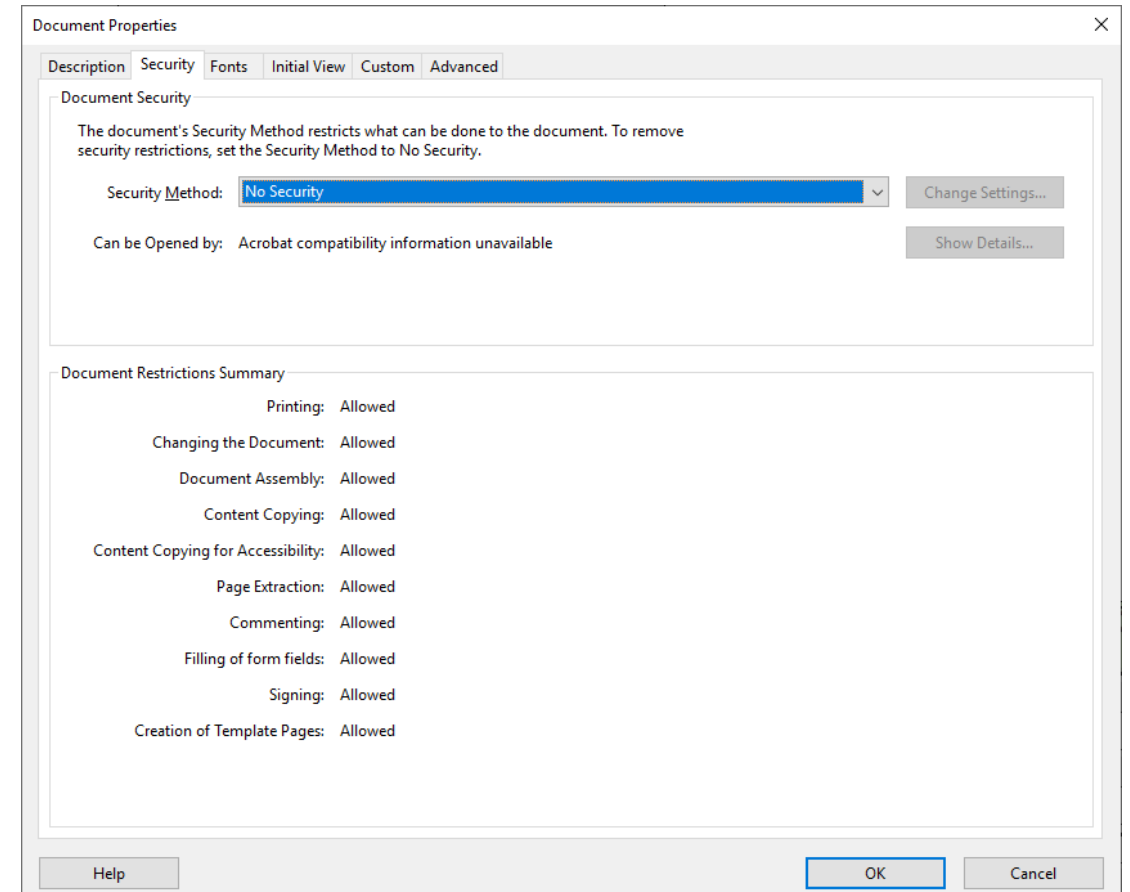
NOTE: Varies based on versions of Adobe PRO DC

# PDF – Meta Data

PDF metadata provides additional information about a document like :

- **Description tab**
  - (Title)
  - Do not change the Author name
  - If there's none OK to leave it blank
- **Initial view tab**
  - Window Options -> Show -> Document title
- **Advanced tab**
  - Reading Options -> Select Language

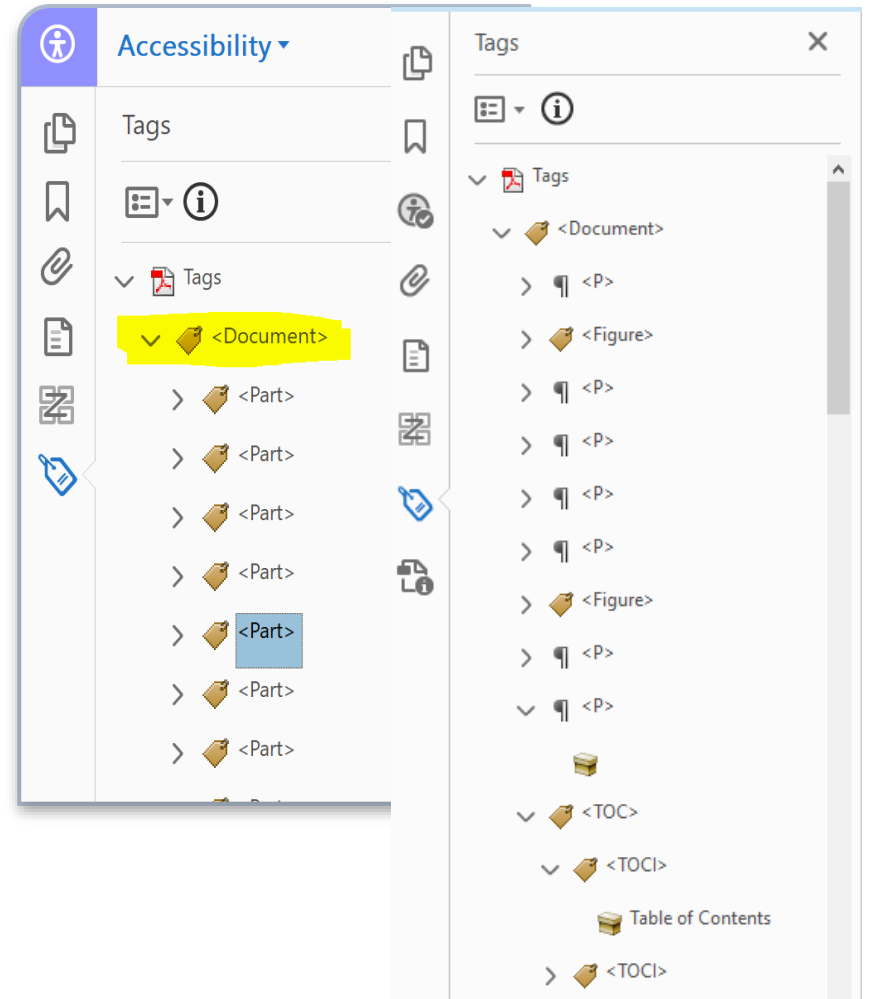
Description -> Look for history and the tool used to create the PDF



# Tags – Naming Conventions

**Container Tags** - To group a set of tags together.

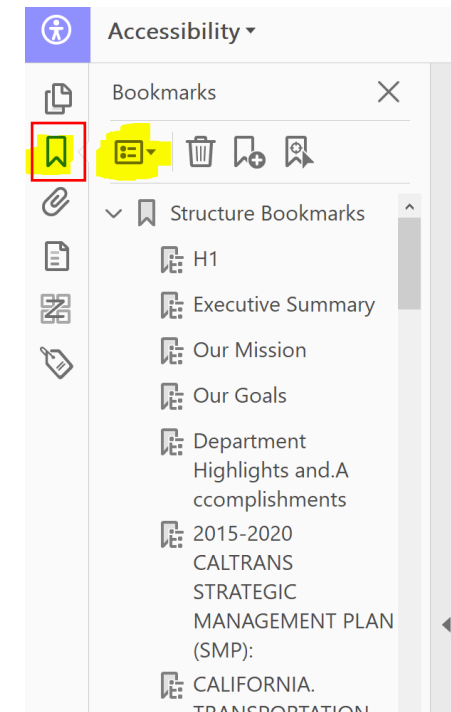
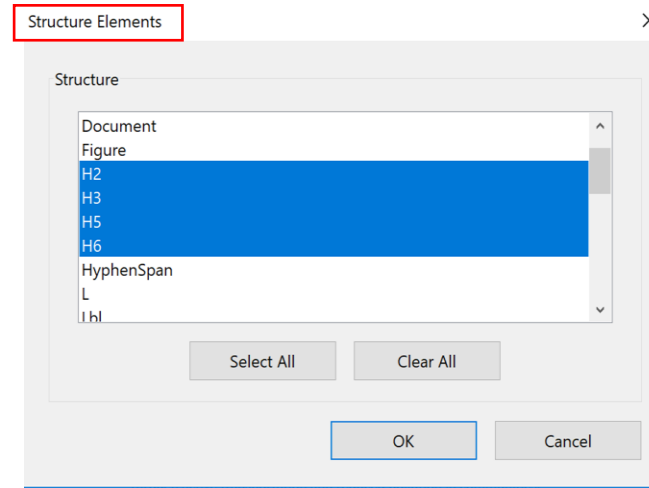
- **Document** - <Document> -> Root tag used to encompass all tags in the tag structure
- **Part** - <Part> tag used to encompass tags belonging to a page
- **Div** – <Division> tag used to group related content
- **Sect** - <Section> tag used to encompass related content tags in a Part
- **Span** - <Span> tag used for additional purposes
- **Paragraph** - <P> tag used for a block of text
- **List** – <L>, <LI>, <Lbl>, <LBody> used for link tags
- **Table** - <Table>, <TR>, <TH>, <TD> used for table tags
- **Link** - <Link>, <Link-OBJR> Link tags used for hyperlinks
- **Headings** – <H1>, <H2>, <H3> .... used for heading levels
- **Table of Content** - <TOC>, <TOCI>
- Do not delete tags that have content





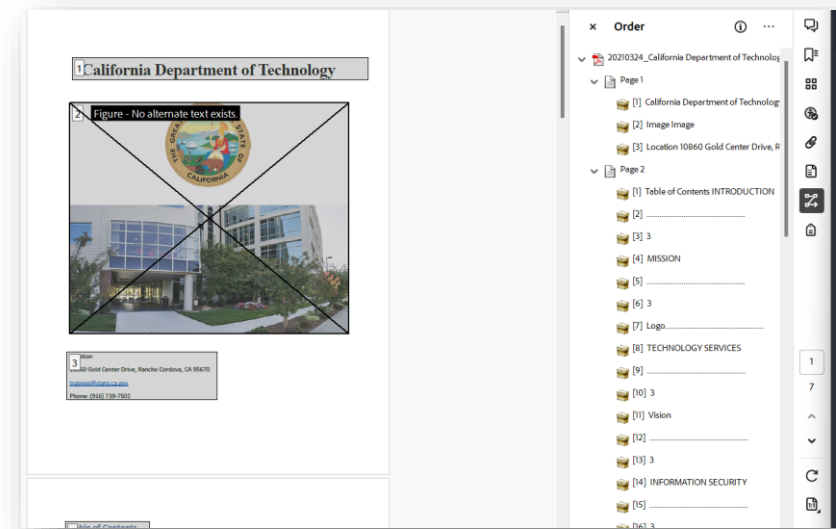
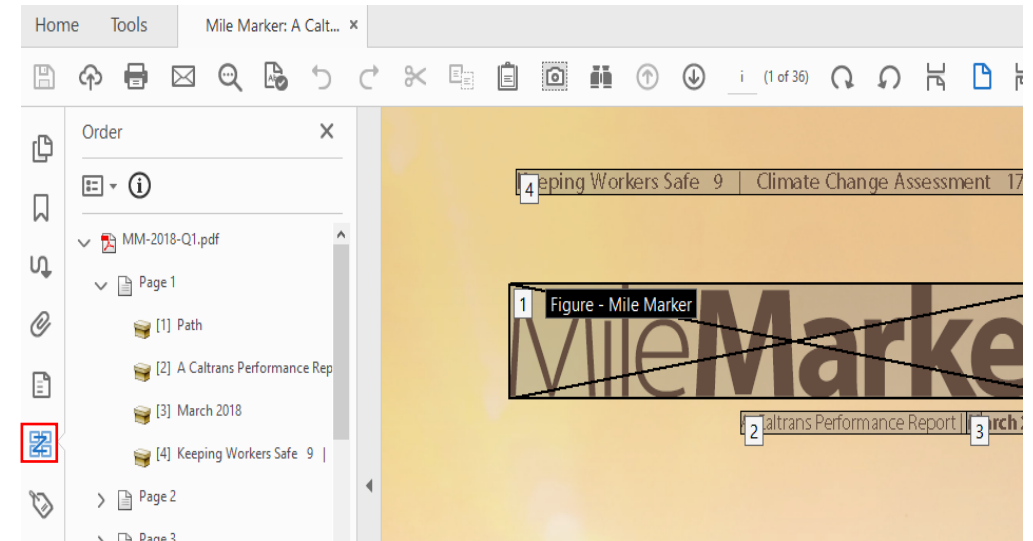
# Bookmarks

- Click on the bookmark icon, from the navigation panel
- Then click on the options dropdown and select “New bookmarks from structure”
- Select all headings in bookmarks options (H1 to H6)
- That will generate bookmarks for the whole document.



# Order

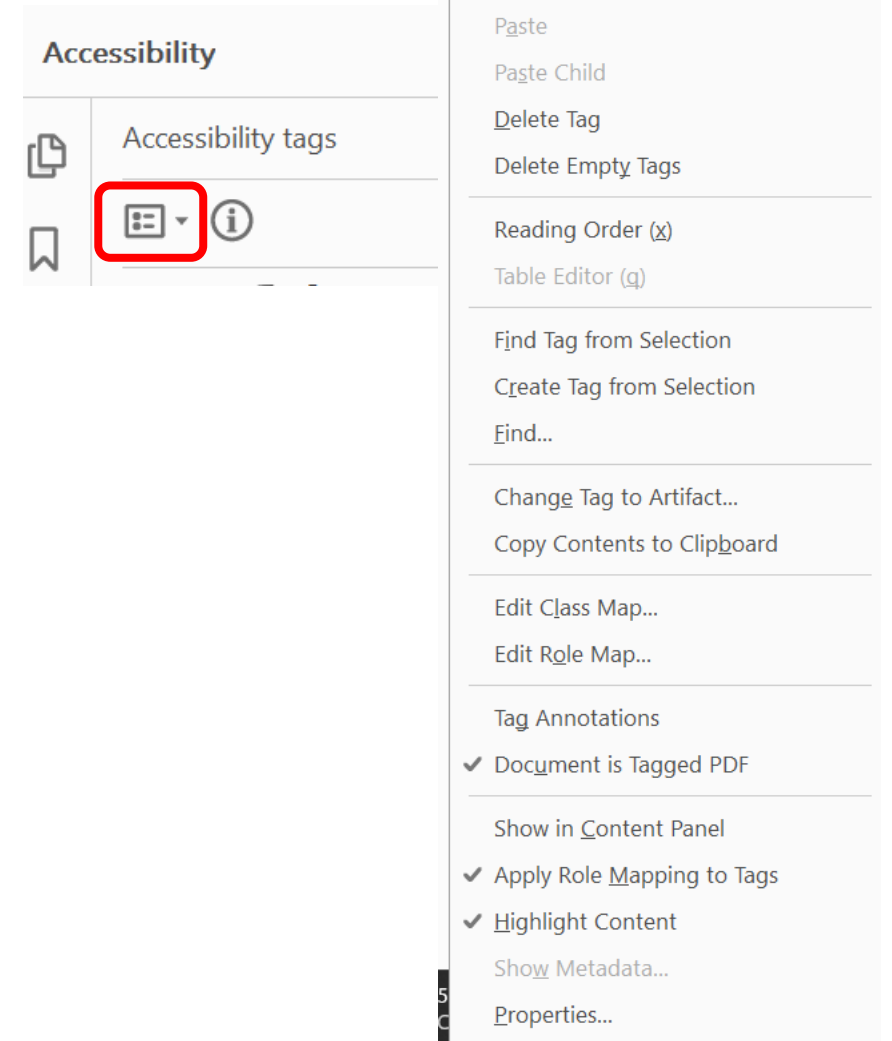
- ‘Z’ looking icon helps review the page contents order
- Text to speech content is read by the assistive technologies as shown on the ‘Order’
- Update or reorder the page content on each page to follow a logical sequence
- Reading order should match with the tags tree order
- Screenshot items 1, 2, and 3 should come before 4.



Continuous Cloud Version

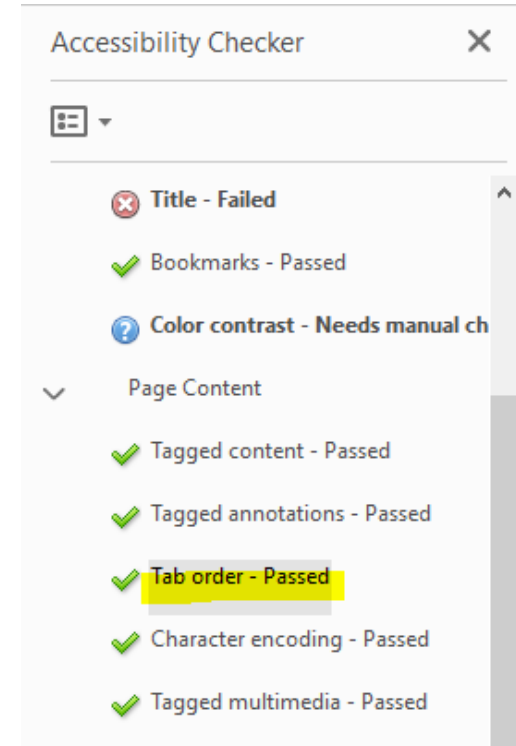
# Accessibility Tags – Options Menu

- Tags helps us identify contents displayed on the page
- Variety of tasks can be performed using the options menu
- New Tag is one of the most common
- Run delete empty tags after Auto Tagging
- Caution – do not delete tags that have content in it.



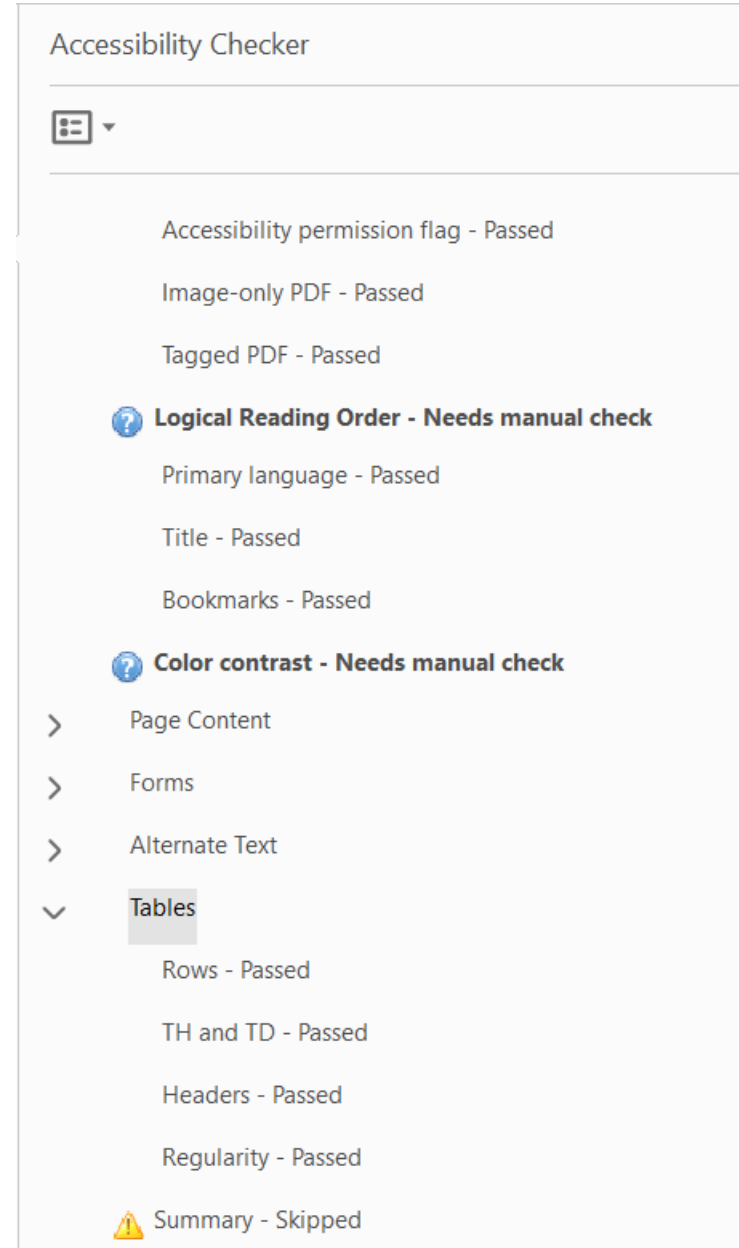
# Tab Order

- Used for page navigation
- Mostly an automatic fix
- When you tab through the elements, make sure content is tab abled and it matches the reading order
- This can be an automatic fix in Adobe Acrobat (if not fixed, right click and select “Fix”)



# Tables

- Regularity failed- Most common issue (TR,TH tags may be missing)
- Accessibility checker report for tables may not be accurate so a screen reader might be required
- Tables are often complex hence needs manual check, table tags for additional details (scope and span)
- Table Summary is Optional



Accessibility Checker

Accessibility permission flag - Passed

Image-only PDF - Passed

Tagged PDF - Passed

**? Logical Reading Order - Needs manual check**

Primary language - Passed

Title - Passed

Bookmarks - Passed

**? Color contrast - Needs manual check**

> Page Content

> Forms

> Alternate Text

▼ **Tables**

Rows - Passed

TH and TD - Passed

Headers - Passed

Regularity - Passed

⚠ Summary - Skipped

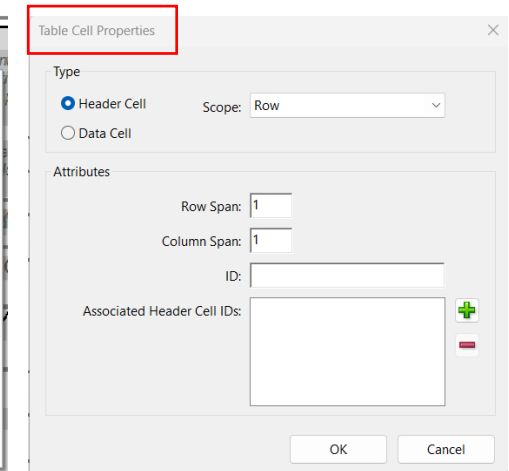
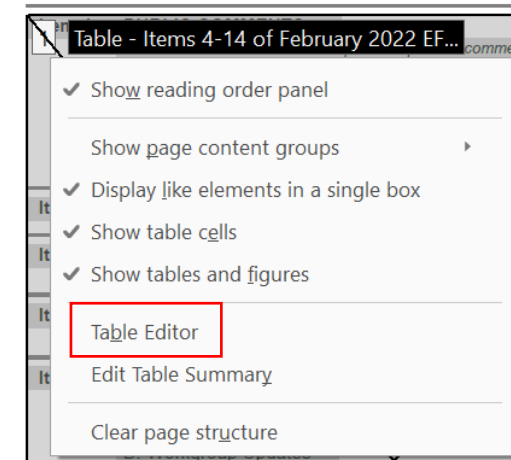
# Tables – Rows and Columns

- Look for merged and split cells in a table
- Define the type and attributes for rows and columns (TH, TR, TD)
- Insert 'thead' and 'tbody' tags for tables that has no data
- Using touch up reading order panel, click on the Table Header ->table cell properties ->set scope and span for a row or column as desired

## Simple Table

Most Commonly Owned Devices

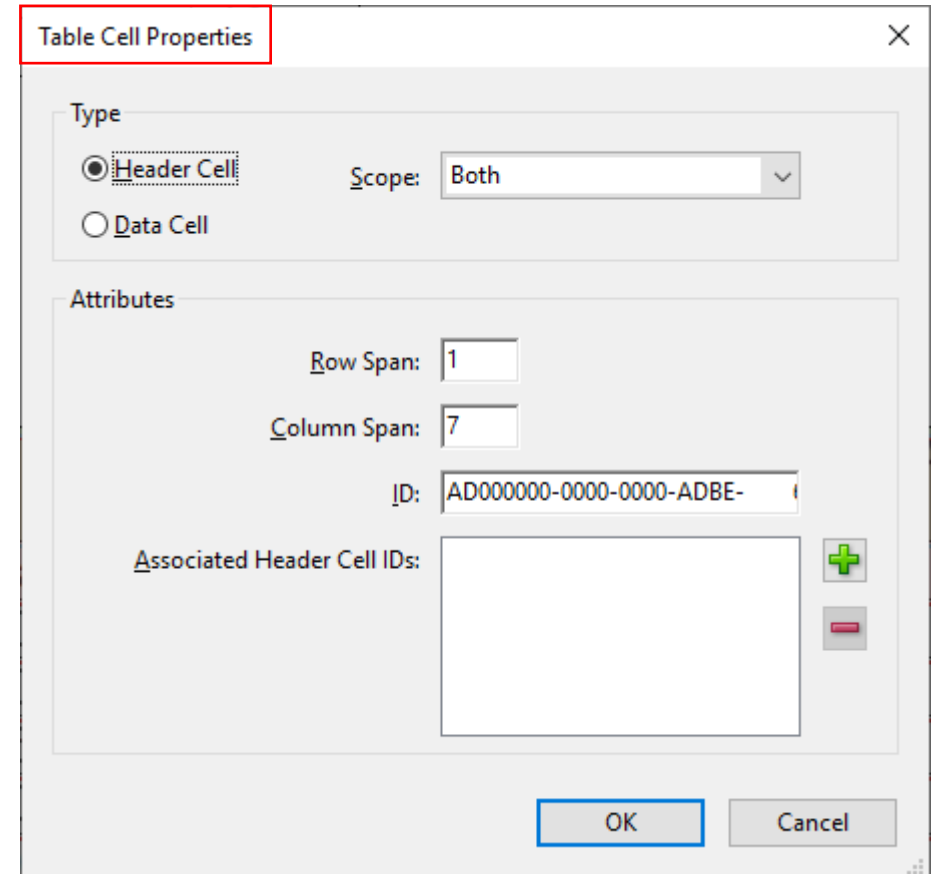
Adults who own various devices	%
Telephone including Smart Phones	92
Desktop/Laptop Computer	73
Tablet Computer	45
P3 Player	40
Game Console	40
Book Reader	19
Portable Gaming Device	14





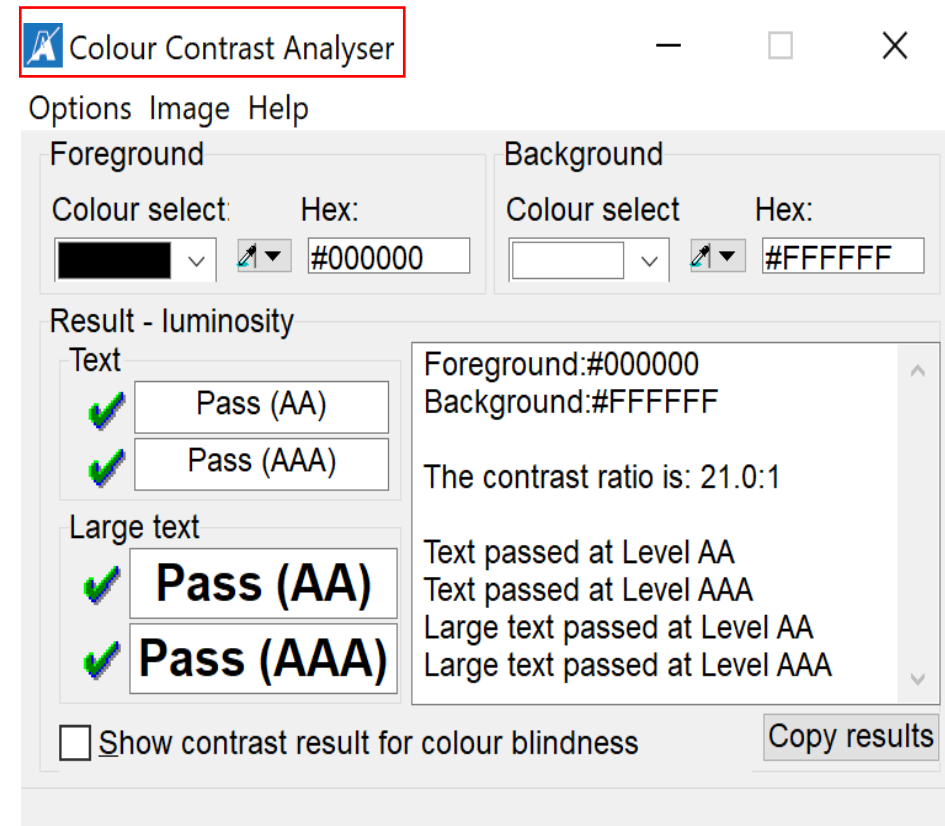
# Tables – Screen Reader

- Data Tables
- Ensure the table headers are properly tagged with scope and column/row spans.
- As you navigate right and left do you hear the different column headers with NVDDA/JAWS?
- As you navigate up or down the table, do you hear the different row headers?



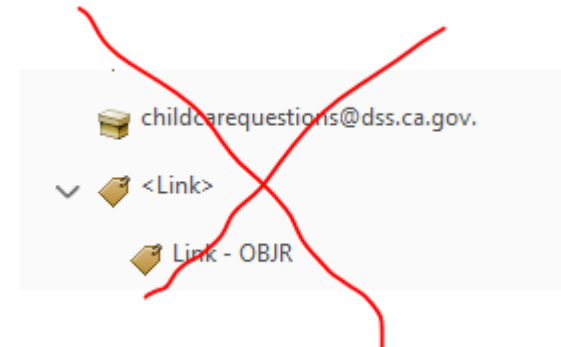
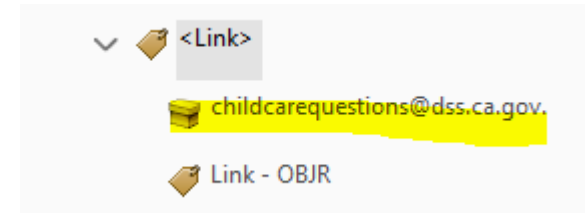
# Color Contrast – Manual check

- Use Color Contrast Analyser tool
- Check for text and numbers when shown in color
- Contrast ratio between your text and background is at least 4.5:1
- Use a light background and dark text or vice versa



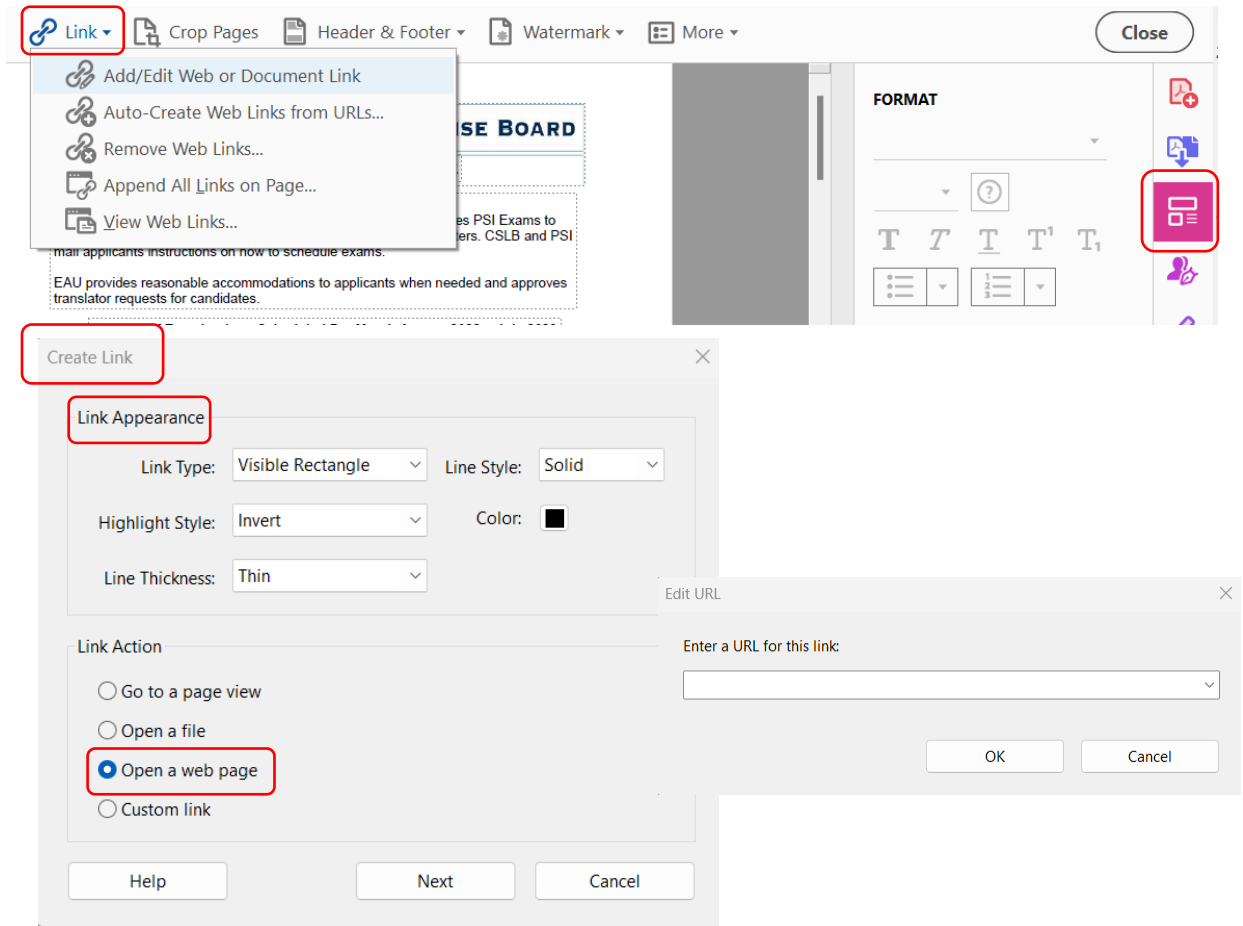
# Links

- Links must be associated with content, or they will not be screen reader accessible
- Tab to all links and ensure they are both keyboard and screen reader accessible.
- Links must have proper URL structure good practices:
  - [www.cdt.ca.gov](http://www.cdt.ca.gov)
  - <mailto:govt@tcrest.com>



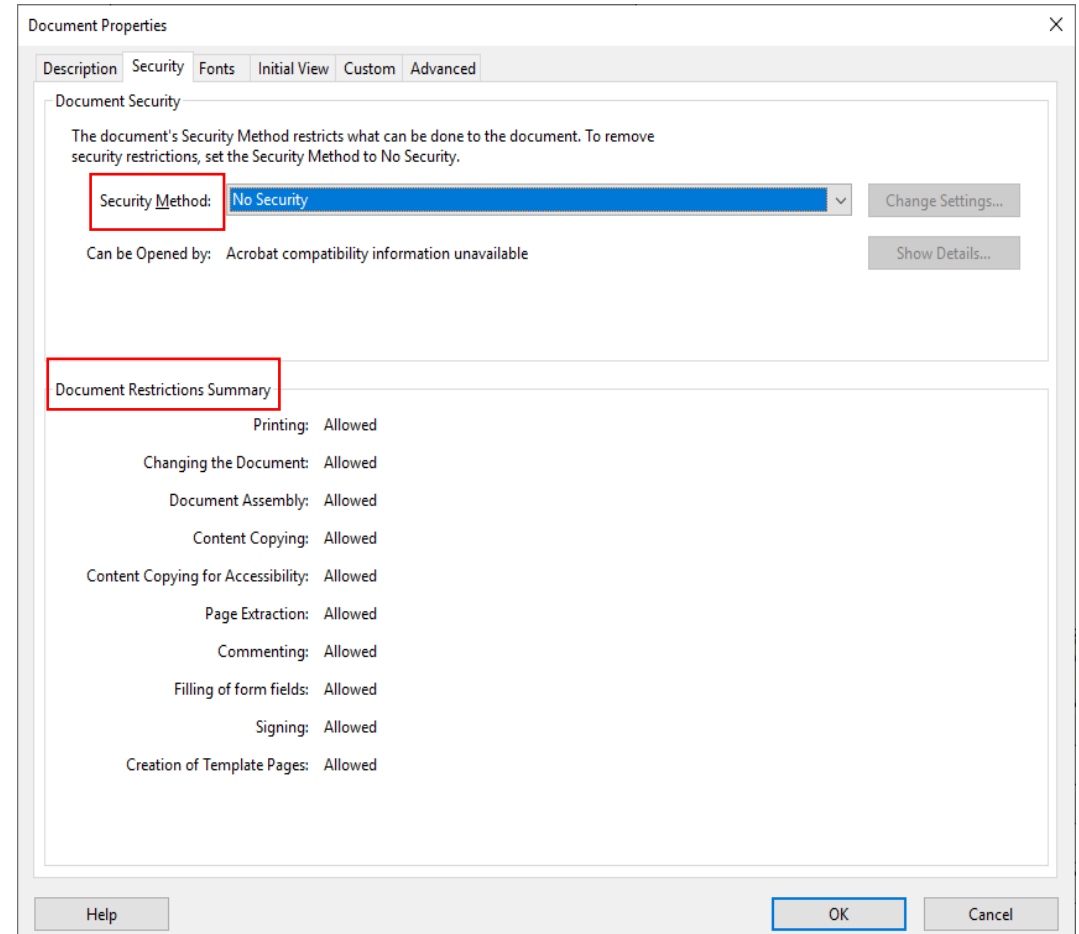
# Create link

- Open Edit PDF from the navigation panel
- Select Link tool and the menu item
- Draw a rectangle around the text
- Create link window pops up
- Select and fill in details -> Link action -> Open a webpage -> Next -> Edit URL -> Enter a URL -> Close edit PDF window and save PDF
- When the PDF is opened the link and the contents are automatically updated



# PDF – Security Settings

- From the main Menu Choose File > Properties
- Ensure Security is Set Properly
- If document has security applied ensure that the check box to enable screen reader access is checked



# PDF – Security Settings cont.

- When fillable form fields are present, ensure “Changes Allowed” set correctly.
- PDFs posted on the public facing websites usually do not have confidential info.

Password Security - Settings

Document Open

Require a password to open the document

Document Open Password: [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] Not Rated

**i** No password will be required to open this document.

Permissions

Restrict editing and printing of the document. A password will be required in order to change these permission settings.

Printing Allowed: None [v]

Changes Allowed: None [v]

Enable copying of text, images, and other content

Enable text access for screen reader devices for the visually impaired

Change Permissions Password: [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] Not Rated

Options

Compatibility: Acrobat 7.0 and later [v] Encryption Level: 128-bit AES

Encrypt all document contents

Encrypt all document contents except metadata (Acrobat 6 and later compatible)

Encrypt only file attachments (Acrobat 7 and later compatible)

**i** All contents of the document will be encrypted and search engines will not be able to access the document's metadata.

Help OK Cancel



# Accessibility Testing

- Solve all the issues
- Fix all errors to get an Adobe Pass
- Manual testing required for
  - Logical Reading Order
  - Color contrast

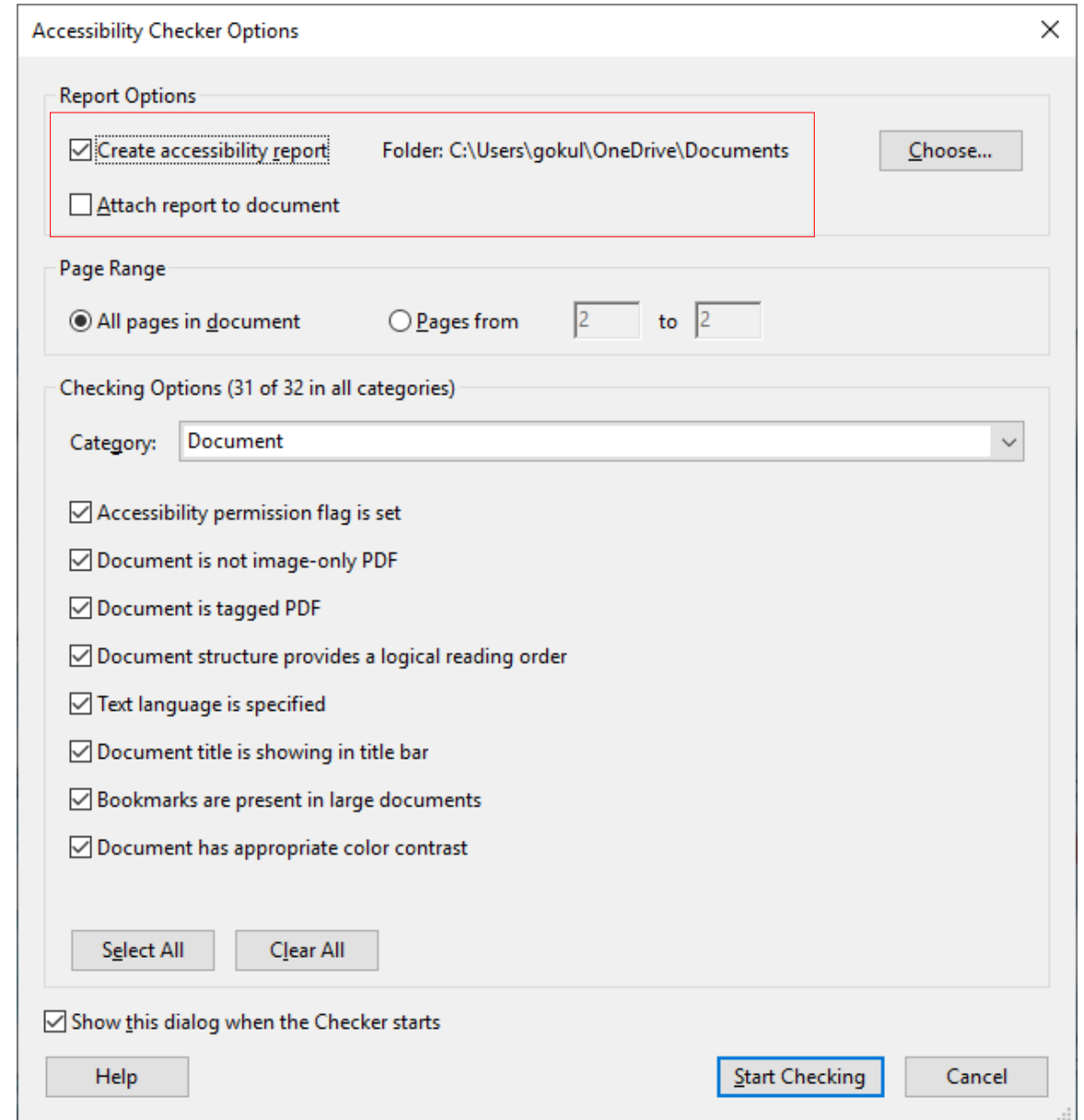
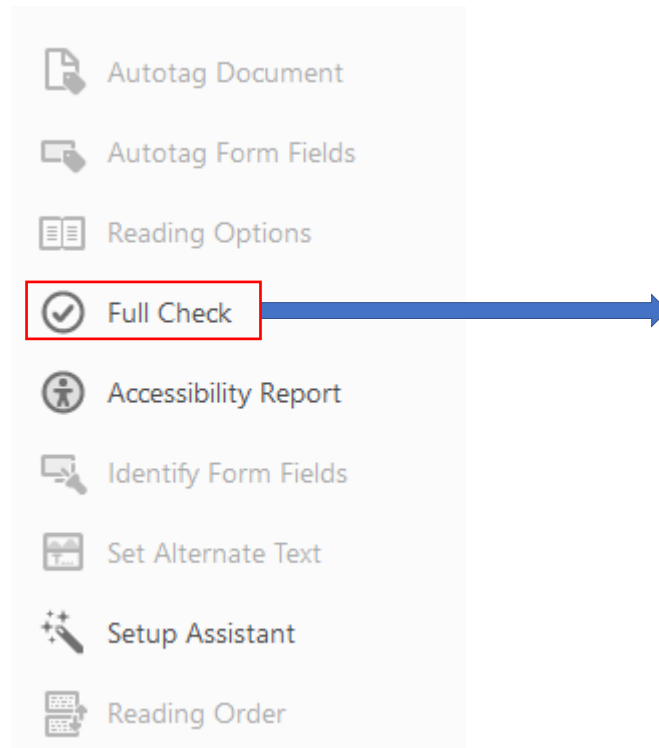
The image displays two side-by-side screenshots of the Accessibility Checker interface. Both screenshots show a list of categories on the left and a detailed view of the 'Document (2 issues)' section on the right.

**Left Screenshot:** Shows the 'Document (2 issues)' section collapsed. The categories listed are: Document (2 issues), Page Content, Forms, Alternate Text, Tables, Lists, and Headings.

**Right Screenshot:** Shows the 'Document (2 issues)' section expanded. The issues listed are: Accessibility permission flag - Passed, Image-only PDF - Passed, Tagged PDF - Passed, **Logical Reading Order - Needs manual check** (with a question mark icon), Primary language - Passed, Title - Passed, Bookmarks - Passed, **Color contrast - Needs manual check** (with a question mark icon), Page Content, Forms, Alternate Text, Tables, Lists, and Headings.

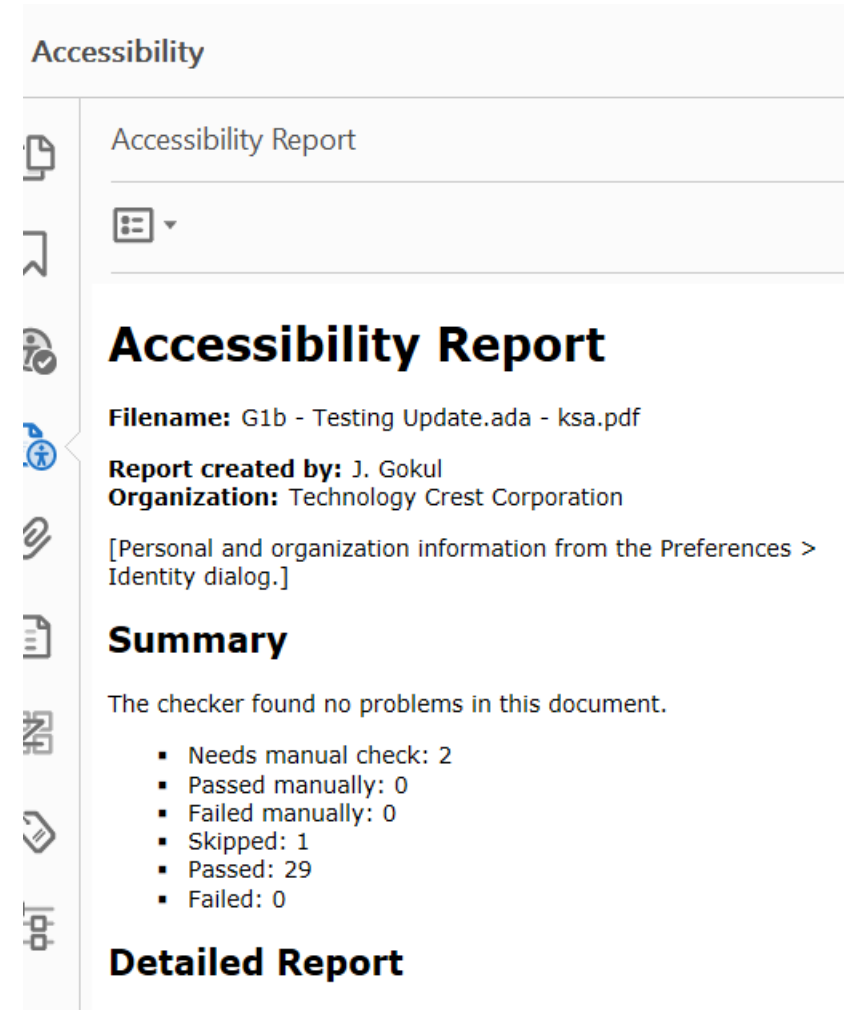
# Testing – Full Check

- Run the Accessibility Full Check and Correct Errors



# Accessibility Report

- After fixing accessibility issues review  
Accessibility Report
- Provides a summary and detailed report
- Accessibility report can be run anytime to get  
an idea on the level of effort



The screenshot shows a sidebar on the left with various icons, and a main content area on the right. The main content area is titled "Accessibility" and contains a section for "Accessibility Report". Below this, there is a dropdown menu with a list icon. The main heading is "Accessibility Report". Below the heading, the following information is displayed: "Filename: G1b - Testing Update.ada - ksa.pdf", "Report created by: J. Gokul", and "Organization: Technology Crest Corporation". A note in brackets indicates that personal and organization information is from the Preferences > Identity dialog. Below this is a "Summary" section with the text "The checker found no problems in this document." and a bulleted list of statistics: "Needs manual check: 2", "Passed manually: 0", "Failed manually: 0", "Skipped: 1", "Passed: 29", and "Failed: 0". At the bottom of the main content area is a "Detailed Report" section.

Accessibility

Accessibility Report

Accessibility Report

Filename: G1b - Testing Update.ada - ksa.pdf

Report created by: J. Gokul

Organization: Technology Crest Corporation

[Personal and organization information from the Preferences > Identity dialog.]

**Summary**

The checker found no problems in this document.

- Needs manual check: 2
- Passed manually: 0
- Failed manually: 0
- Skipped: 1
- Passed: 29
- Failed: 0

**Detailed Report**

# Screen Readers

- Listen to the Screen Reader when testing document contents
- JAWS: Licensed tool
- Usage Tips: Refer to <http://webaim.org/resources/shortcuts/jaws>
- NVDA: Open-source tool
- Usage Tips: Refer to <http://webaim.org/resources/shortcuts/nvda>
- Alt text Resources <http://diagramcenter.org/table-of-contents-2.html>
- Help: <https://helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html>

# Thank you

CONTACT US

Jay Gokul | 415.690.3560

[jgokul@tcrest.com](mailto:jgokul@tcrest.com)

Technology Crest Corporation

[www.tcrest.com](http://www.tcrest.com)

9706 Fair Oaks Blvd., Ste 180

Fair Oaks, CA 95628



## Trainers

- ❖ Jay Gokul, Technology Crest, [jgokul@tcrest.com](mailto:jgokul@tcrest.com), 415.690.3560 Cell
- ❖ Venkat Bhaskara, Technology Crest, [Venkat.Bhaskara@tcrest.com](mailto:Venkat.Bhaskara@tcrest.com)

# Questions