

Fundamentals of HTML

Internet Programming I: Lab I



Addis Ababa Science and Technology University
Department of Software Engineering

Chere Lema and Biruk Gebru | 2014EC



Purpose of This Lab



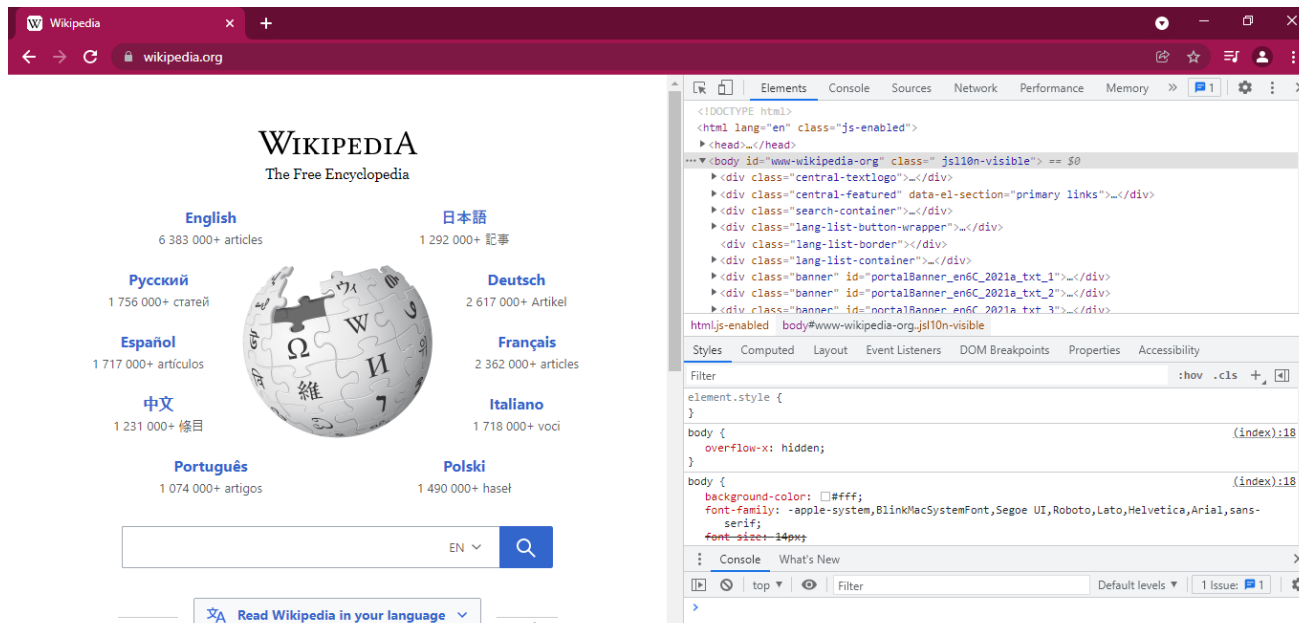
- The purpose of this lab is to:
 - Introduce with Developers Tool using different Internet browsers
 - Practice writing basic web pages with HTML
 - Start developing course project
- **Before this Lab !!**
 - Be familiar with basics of Internet Programming and HTML
 - Refer-back lecture one and two materials

1. Developers Tool



Opening developers tools:

- F12, Ctrl + Shift + I, right click and inspect or using browsers settings (differs from browser to browser) can open developer tools
- E.g. chrome DevTools – Wikipedia.org



1. Developers Tool cont'd



The screenshot shows the Wikipedia homepage in English. The language selection menu is open, showing options for Russian, Spanish, Chinese, Portuguese, Polish, German, French, Italian, and Amharic. The 'Read Wiki in Amharic' button is highlighted. The Chrome DevTools 'Elements' panel is open, showing the DOM tree for the language selection button. A red arrow points from the button in the browser to the corresponding DOM element in the DevTools panel.

HTML and DOM view:

- Allows you to see the DOM as it was rendered
- You can make changes to the HTML and DOM see output live (but not sent to the server)

1. Developers Tool cont'd



What are browser developer tool x Wikipedia x Web development tools - Wikiped x +

← → ↻ wikipedia.org

WIKIPEDIA
The Free Encyclopedia

日本語
1 292 000+ 記事

Deutsch
2 617 000+ Artikel

Français
2 362 000+ articles

Italiano
1 718 000+ voci

Português
1 074 000+ artigos

Polski
1 490 000+ hasel

中文
1 231 000+ 條目

270 × 92.25
Color #000000
Font 30px "Linux Libertine", "Hoefler Text", Ge...
Margin 40px 209.5px 5px

ACCESSIBILITY
Name generic
Role
Keyboard-focusable

Read Wikipedia in your language

Inspect elements using selector

```
<!DOCTYPE html>
<html lang="en" class="js-enabled">
<head>
  <body id="www-wikipedia-org" class="js110n-visible"> == $0
    <div class="central-textlogo">...</div>
    <div class="central-featured" data-el-section="primary links">...</div>
    <div class="language-container">...</div>
    <div class="language-button-wrapper">...</div>
    <div class="language-order">...</div>
    <div class="language-container">...</div>
    <div class="banner">Banner_en6C_2021a_txt_1</div>
    <div class="banner">Banner_en6C_2021a_txt_2</div>
  </body>
</html>
```

html.js-enabled body#www-wikipedia-org.js110n-visible

Styles Computed Layout Accessibility

Filter

element.style { }

body { overflow-x: hidden; }

body { background-color: #fff; font-family: -apple-system,BlinkMacSystemFont,Segoe UI,Roboto,Lato,Helvetica,Arial,sans-serif; font-size: 14px; }

Console What's New Issues

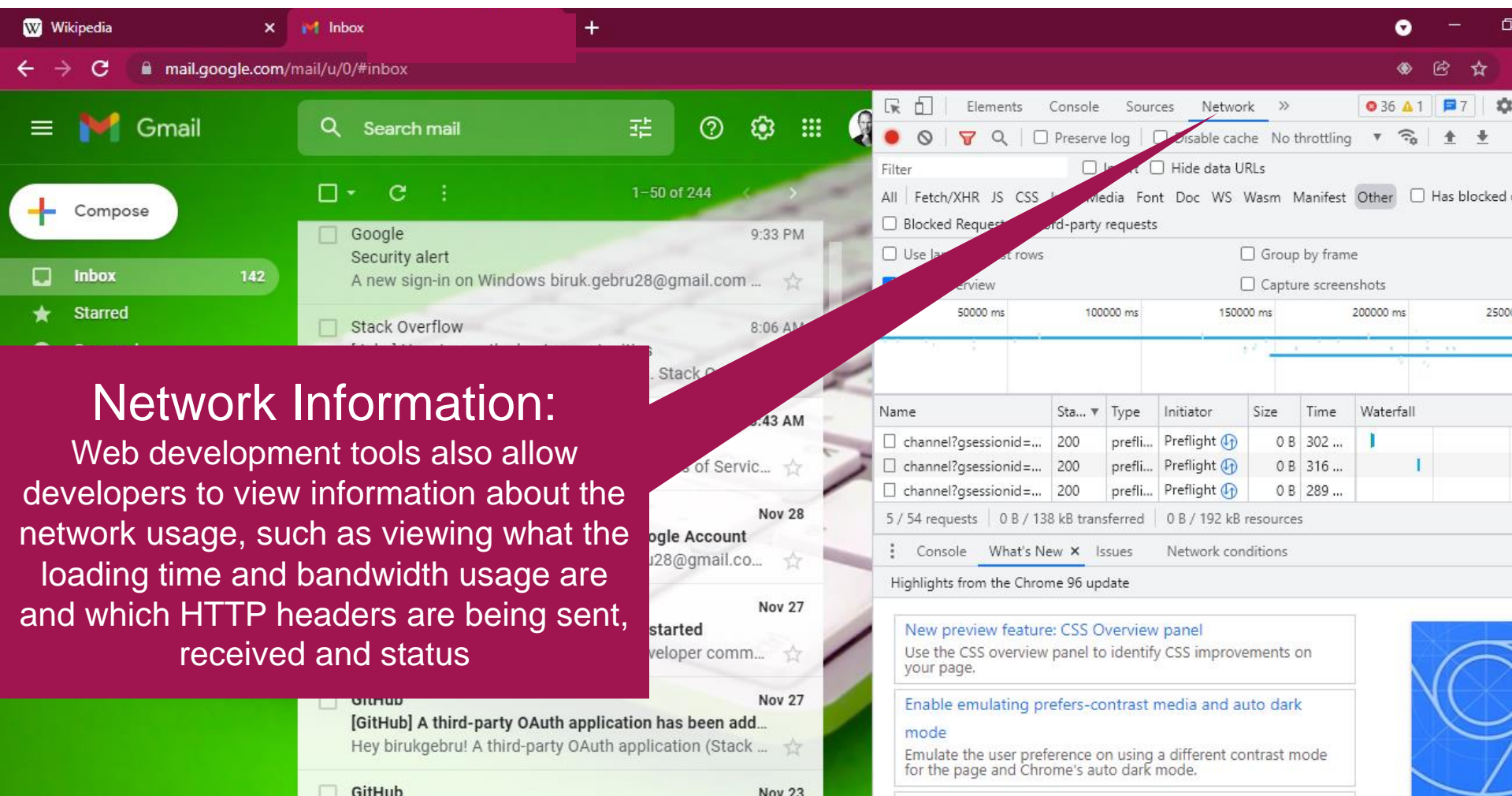
top Filter Default levels 1 Issue: 1

1. Developers Tool cont'd



A screenshot of a web browser showing the Wikipedia homepage. The browser's address bar displays "wikipedia.org". The page content includes the Wikipedia logo, the text "The Free Encyclopedia", and a grid of language links such as "English", "日本語", "Русский", "Deutsch", "Español", "Français", "中文", "Italiano", "Português", and "Polski". Each link is accompanied by the number of articles in that language. A search bar is located at the bottom of the page. Overlaid on the right side of the browser window is the Chrome DevTools interface. The "Sources" tab is selected, showing a tree structure of the page's assets, including "portal/wikipedia.org/assets", "img", and "js". A red arrow points from the "Sources" tab to a text box. The text box contains the text "Web page assets and resources: Web development tools also allow developers to inspect resources that are loaded and available on the web page in a tree-structure listing, and the appearance of style sheets can be tested in real time".

1. Developers Tool cont'd

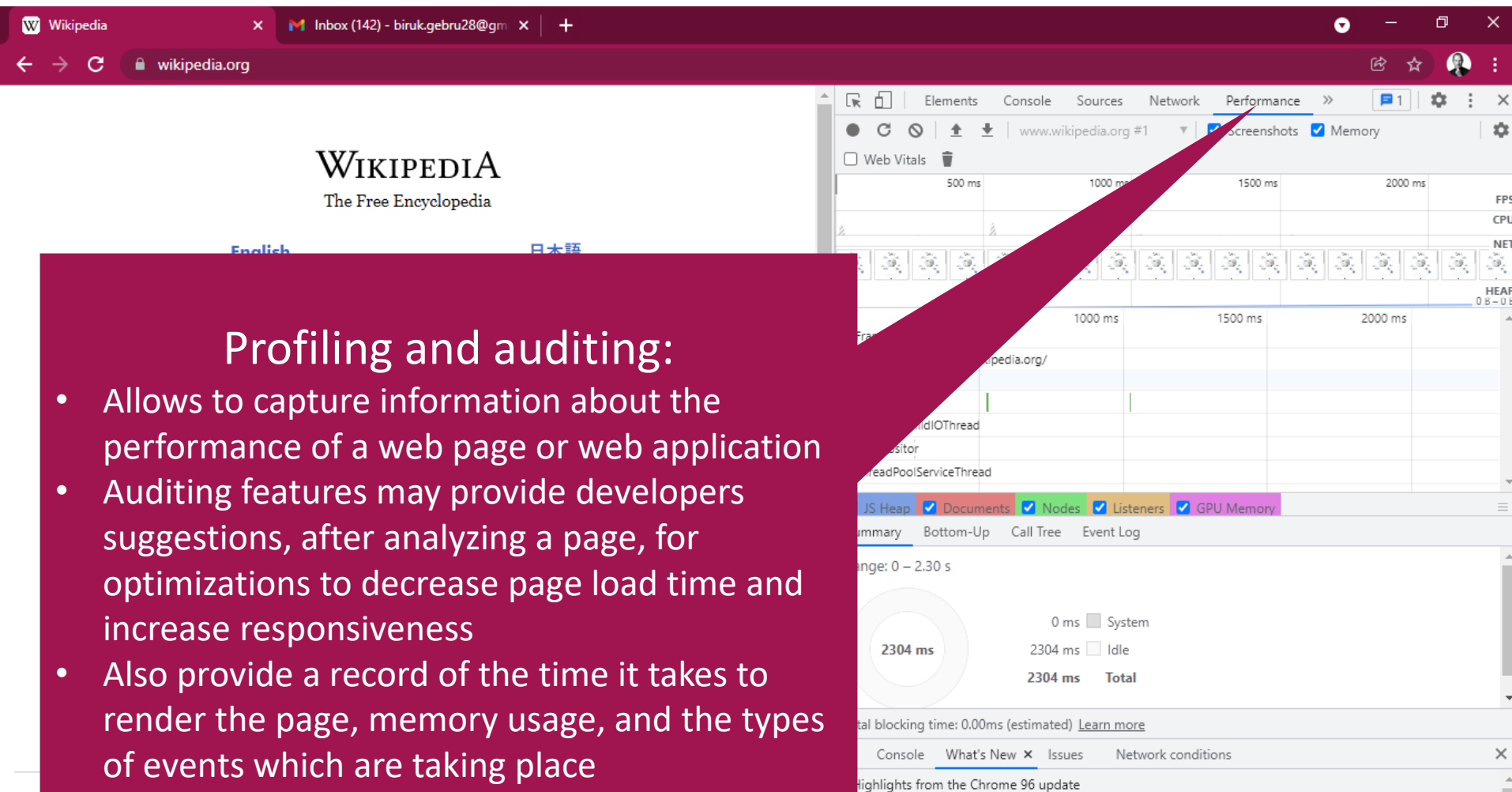


Network Information:

Web development tools also allow developers to view information about the network usage, such as viewing what the loading time and bandwidth usage are and which HTTP headers are being sent, received and status

Name	Sta...	Type	Initiator	Size	Time	Waterfall
channel?gsessionid=...	200	prefli...	Preflight	0 B	302 ...	
channel?gsessionid=...	200	prefli...	Preflight	0 B	316 ...	
channel?gsessionid=...	200	prefli...	Preflight	0 B	289 ...	

1. Developers Tool cont'd

A screenshot of a web browser showing the Wikipedia homepage. The Chrome DevTools Performance tab is open, displaying a timeline of events. A red arrow points from the 'Performance' tab header to the 'Summary' section of the Performance panel. The 'Summary' section shows a total time of 2304 ms, with a breakdown of 0 ms for System, 2304 ms for Idle, and 2304 ms for Total. The 'Call Tree' section is also visible, showing a tree of function calls. The 'Console' tab is at the bottom, showing 'What's New' and 'Issues' sections.

Profiling and auditing:

- Allows to capture information about the performance of a web page or web application
- Auditing features may provide developers suggestions, after analyzing a page, for optimizations to decrease page load time and increase responsiveness
- Also provide a record of the time it takes to render the page, memory usage, and the types of events which are taking place

1. Developers Tool cont'd



Console:

The consoles allow developers to type in JavaScript commands and call functions, or view errors that may have been encountered during the execution of a script

The screenshot shows a Gmail inbox on the left and the Chrome DevTools Performance and Console tabs on the right. The Performance tab displays a timeline of events, and the Console tab shows a list of messages, including a warning about a missing sample and an error about a connection issue.

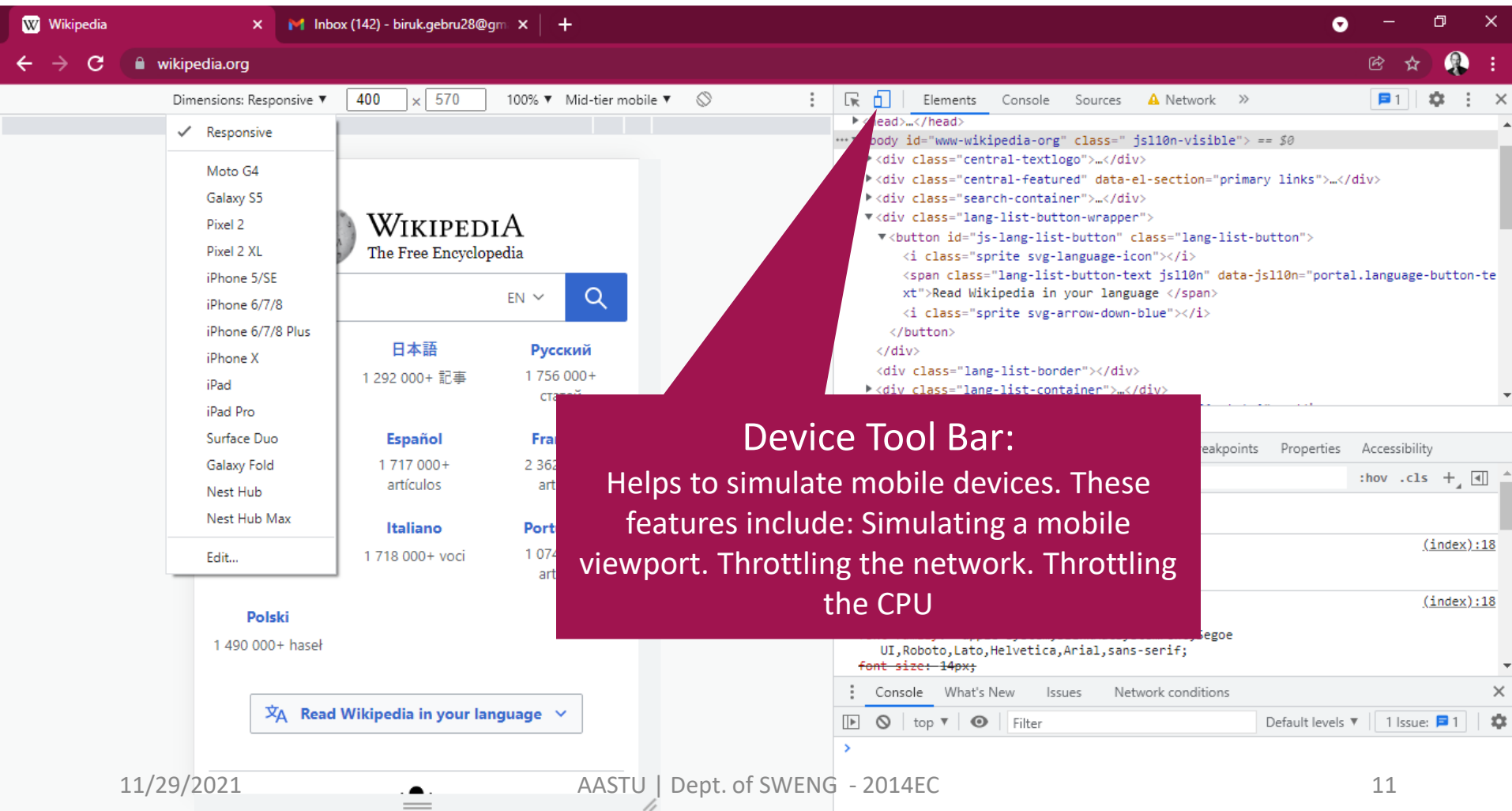
Category	Time (ms)
Scripting	1675
Rendering	23
Painting	2
System	370
Idle	7916
Total	9986

Total blocking time: 556.84ms (estimated) [Learn more](#)

Console messages:

- DevTools: CPU profile parser is fixing 2 missing samples.
- Unchecked runtime.lastError: Could not establish connection. Receiving end does not exist.

1. Developers Tool cont'd



The screenshot shows the Chrome DevTools interface with the Responsive Design tool bar open. The tool bar includes a list of mobile devices to simulate, such as Moto G4, Galaxy S5, Pixel 2, and various iPhone models. The main content area displays the Wikipedia homepage, which is being simulated on a mobile viewport. The Elements panel on the right shows the HTML structure of the page, including the language list button. A red callout box highlights the DevTools interface.

Device Tool Bar:
Helps to simulate mobile devices. These features include: Simulating a mobile viewport. Throttling the network. Throttling the CPU



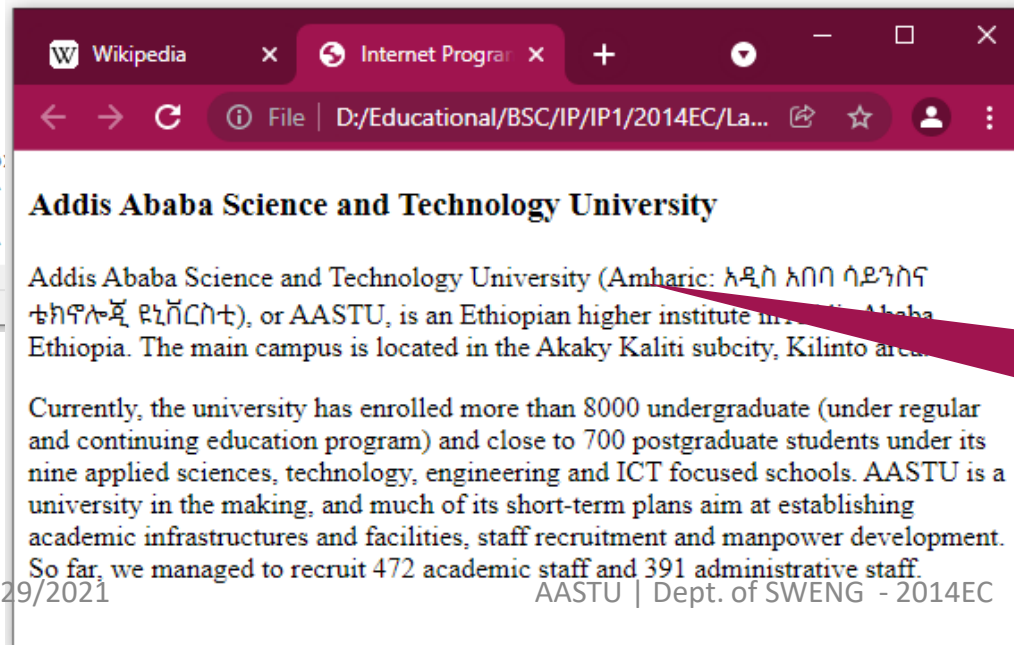
2. Write Basic Webpage

```
basic - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html lang="en">

<head>
  <title>Internet Programming Lab I</title>
</head>

<body>
  <h3>Addis Ababa Science and Technology University</h3>
  <p>
    Addis Ababa Science and Technology University (Amharic: አዲስ አበባ ሳይንስና ቴክኖሎጂ ዩኒቨርሲቲ), or AASTU, is an Ethiopian
    higher institute in Addis Ababa, Ethiopia. The main campus is located in the Akaky Kaliti subcity, Kilinto
    area.
  </p>
  <p>
    Currently, the university has enrolled more than 8000 undergraduate (under regular
    and continuing education program) and close to 700 postgraduate students under its
    nine applied sciences, technology, engineering and ICT focused schools. AASTU is a
    university in the making, and much of its short-term plans aim at establishing
    academic infrastructures and facilities, staff recruitment and manpower development.
    So far, we managed to recruit 472 academic staff and 391 administrative staff.
  </p>
</body>
</html>
```

1. Open Notepad
2. Write an HTML code
3. Save the file using any name with **.htm** or **.html** file extension
4. Open this file with any Internet browser

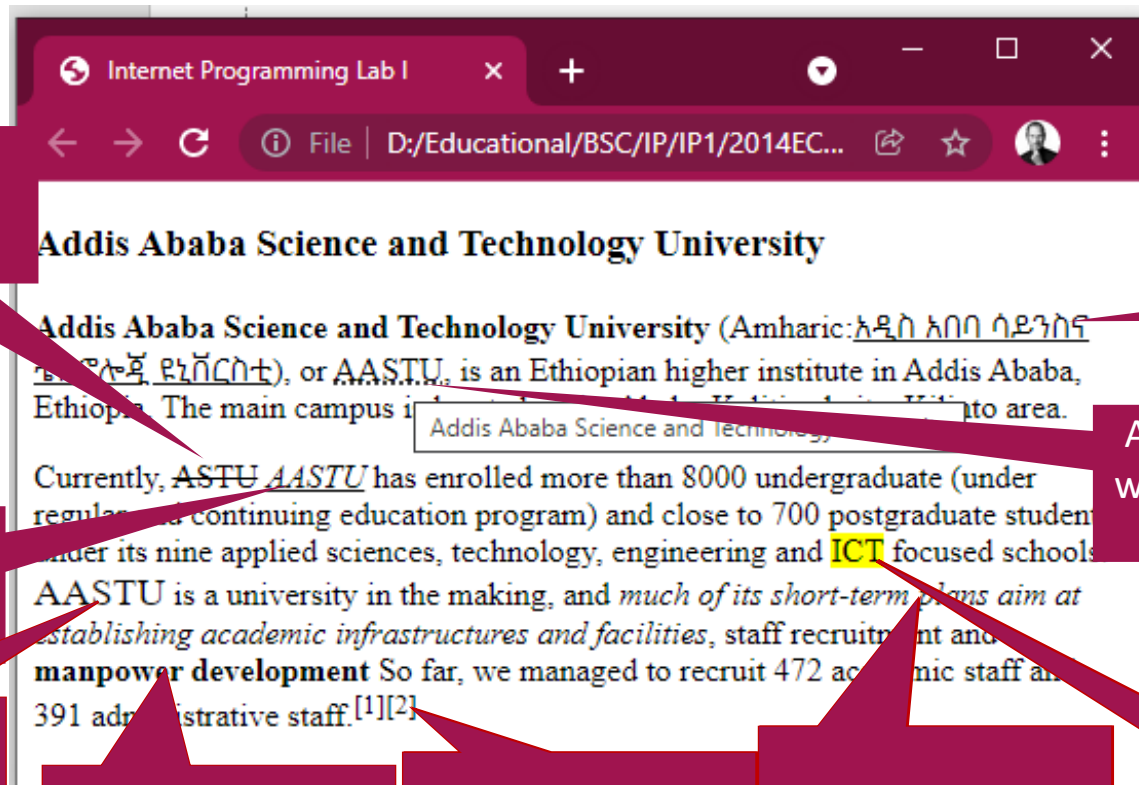


You should see this output page title on the top bar

3. Exercise



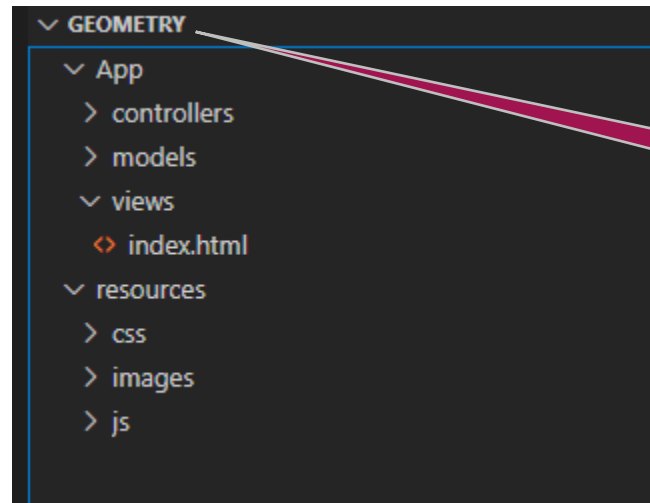
- Apply HTML text formatting without the use of CSS, formatting must include both **physical** and **logical** tags
 - E.g. check the screenshot below



4. Project Kick-Off



- Create a folder for your project
 - Explore a good folder structure to organize your project files/pages and assets
 - E.g.



Project
name

- Create “index.html” file in your project folder and start landing page of your project
- Add company/application name
- Add navigation menu
- Add other HTML elements required in your project from what you know so far