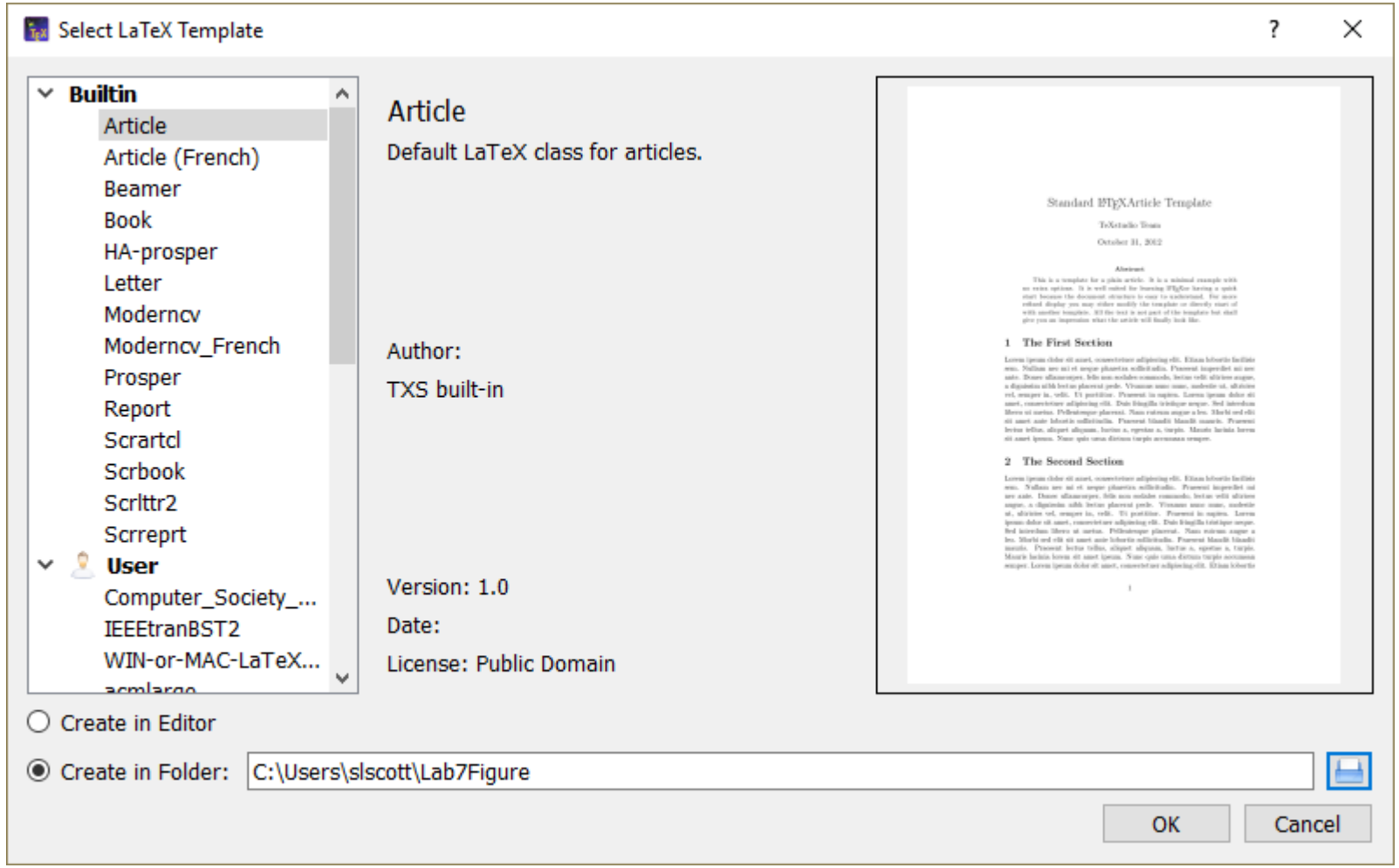
LaTex Lab 7: Figures

CSI 500

Course material derived from:
Lamport, L. (1994). *LATEX: a document preparation system: user's guide and reference manual*. Addison-Wesley.

Article

- Let's make another LaTex document
- Make a new folder called "Lab7Figure"
- In TexStudio, File, New From Template
- Select "Article"
- Select "Create in Folder", and navigate to your "Lab7Figure" folder.
- Press OK



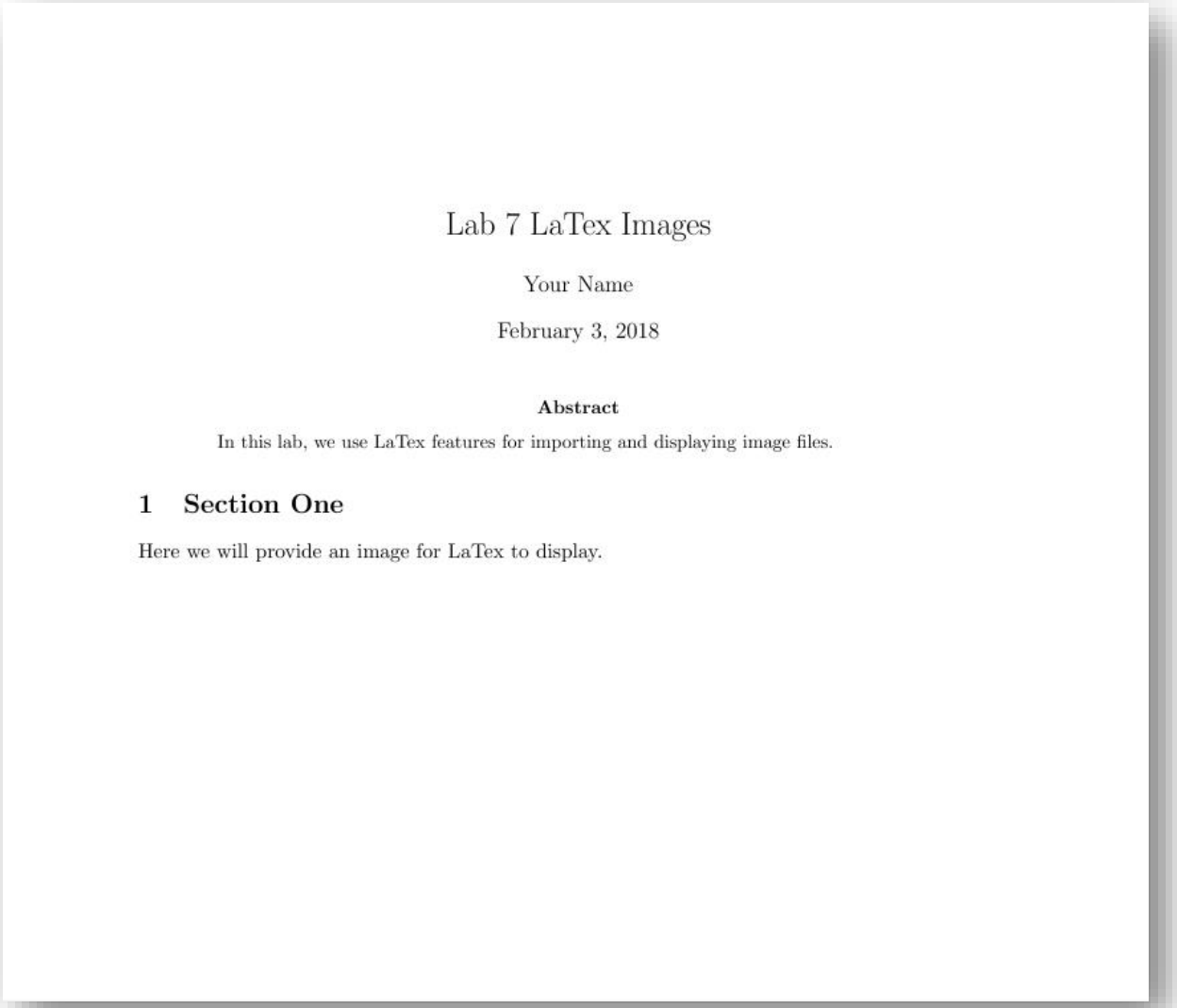
LaTex code

- Type in the following in the editor window.
  - Your additions are shown in RED font color
  - the "%" indicates comments
- Save the document
- Press the green arrowhead titled "Build and View" on the menu bar - it looks like this 
- At the dialog box, press F5 and OK

```
% LaTex Image Example
\documentclass[11pt]{article}
\usepackage{fullpage}
\usepackage{graphicx}


%opening
\title{Lab 7 LaTex Images}
\author{Your Name}

\begin{document}

\maketitle

\begin{abstract}
In this lab, we use LaTex features
for importing and
displaying image files.
\end{abstract}

\section{Section One}
Here we will provide an image
for LaTex to display.

\end{document}
```

put your cursor here

What it should look like



Lab 7 LaTex Images

Your Name

February 3, 2018

Abstract

In this lab, we use LaTex features for importing and displaying image files.

1 Section One

Here we will provide an image for LaTex to display.

Images in LaTex

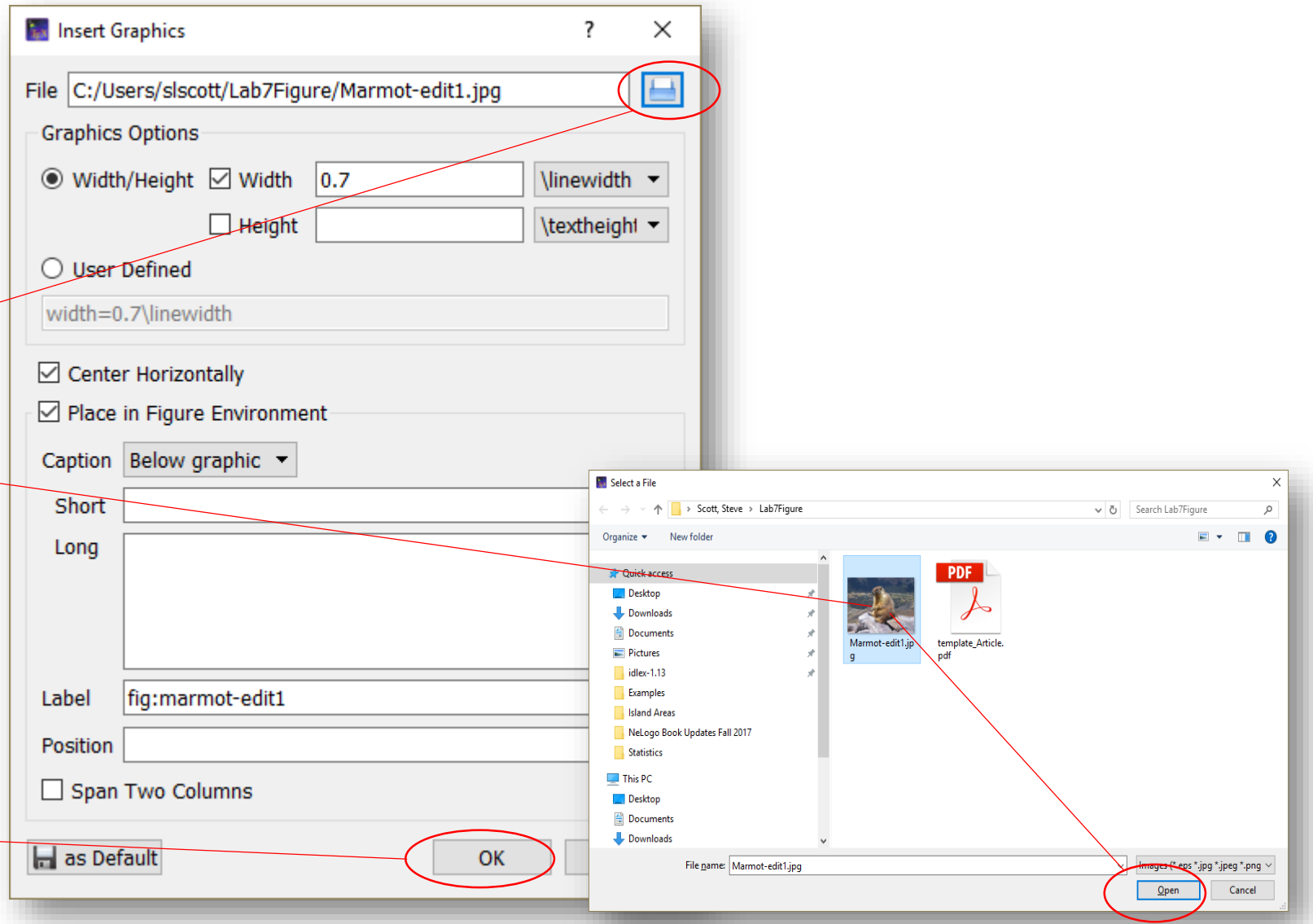
- You can use the IDE to insert an image
  - LaTex supports the major graphics file formats, such as JPG,PNG,TIF
- Find a copyright-free public domain image for this lab
  - google search for "free images"
  - or go to https://commons.wikimedia.org/wiki/Main_Page
- Download and save to your working directory

A marmot seen on top of Mount Dana, Yosemite, CA, USA

Legal Stuff
By The Photographer - Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=54726518
Licensed under Creative Commons Attribution-Share Alike 3.0 Unported
Attribution: Inklein at the English Language Wikipedia
https://commons.wikimedia.org/wiki/File:Marmot-edit1.jpg

Insert the image using TexStudio Image Wizard

- On the menu bar, select "Wizards"
- Select "Insert Graphics"
- At the dialog box, click on the little blue box in the "File" widget
- At the file selection dialog box, click on the thumbnail image of the file you want to insert
- press Open
- Review the default values on the Insert Graphics dialog box. Use the default values for now.
- Press OK

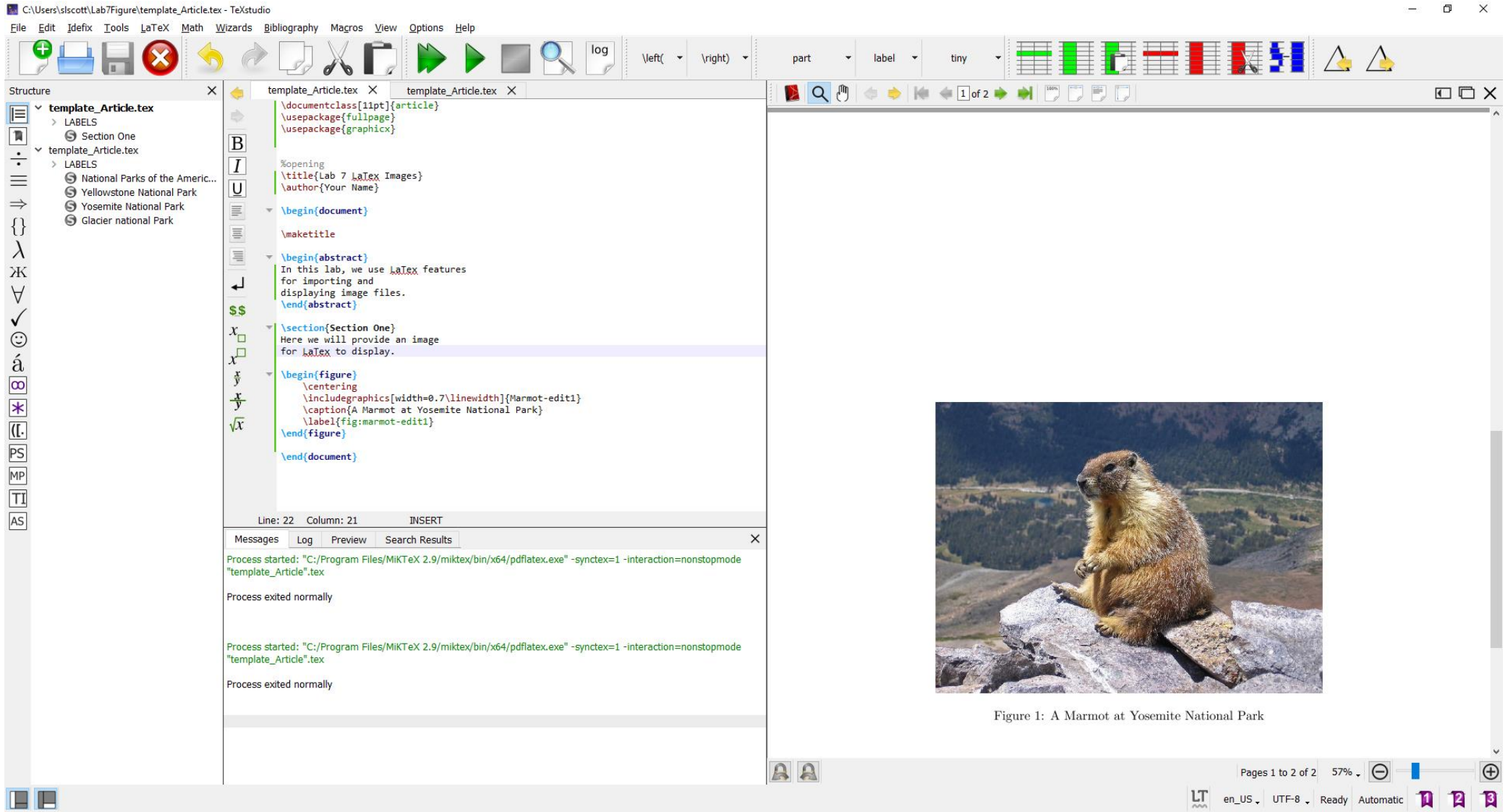


Recompile your document

- Press the green triangles to "Build and View"
- The wizard will automatically insert the image code into your document at the cursor position
- Add some text for the caption
- here's the wizard generated code

```
\section{Section One}
Here we will provide an image
for LaTex to display.
\begin{figure}
        \centering
        \includegraphics[width=0.7\linewidth]{Marmot-edit1}
        \caption{A Marmot at Yosemite National Park}
        \label{fig:marmot-edit1}
\end{figure}

\end{document}
```

Here's what it should look like



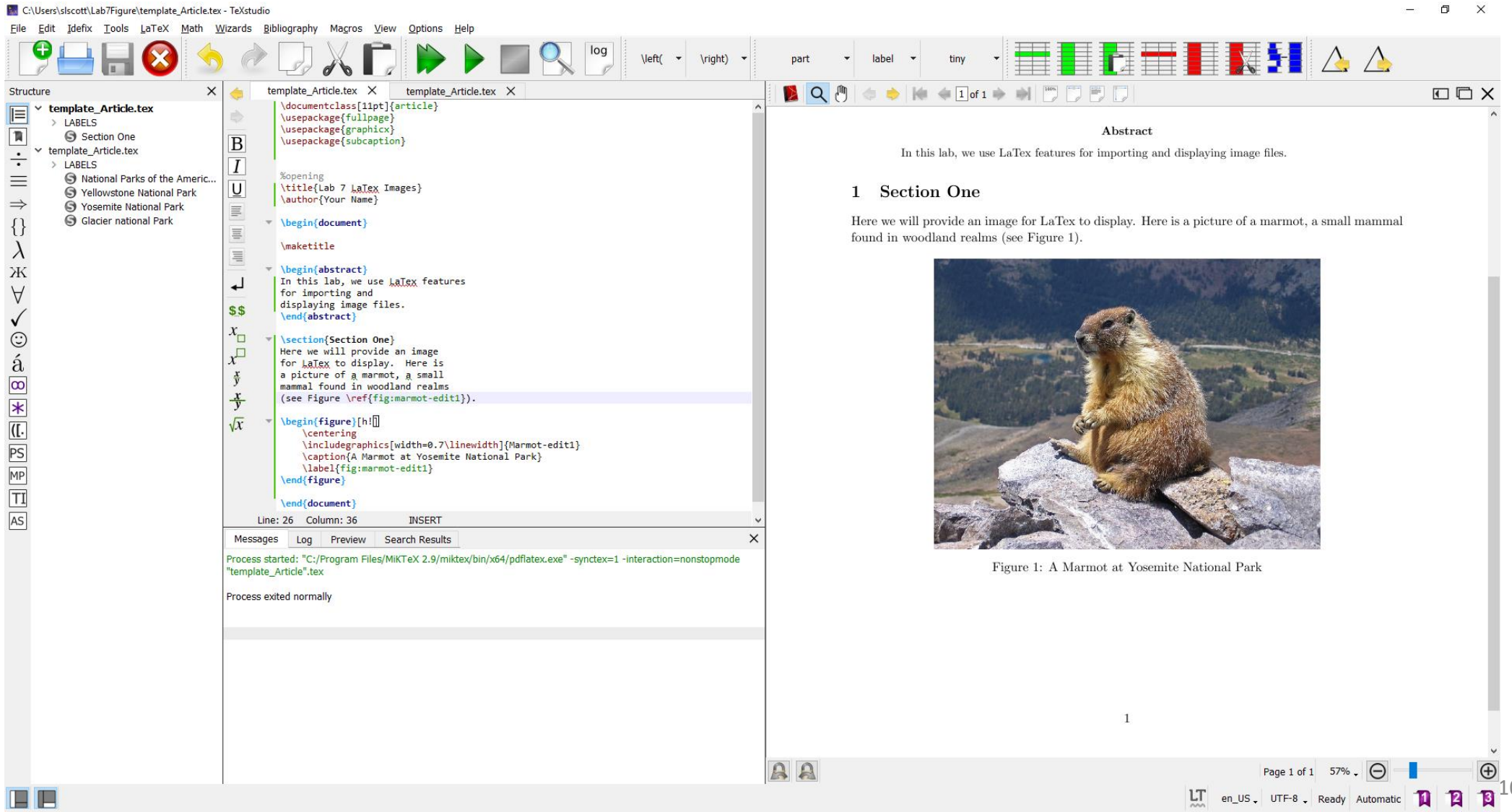
Let's fix the pagination and add a reference

- The default placement has put the image on the next page - what if we want it to appear right in our text stream?
  - Add the optional placement instructions **[h!]** to the \image environment command
- Let's add a cross reference
  - when you typed in the new text, the **\ref** command automatically opened up a dialog box with available references
  - pick the one associated with your image, press OK
  - The reference is automatically filled in
- Press "Build and View"

type in the code in red font

```
\section{Section One}
Here we will provide an image
for LaTex to display.  Here is
a picture of a marmot, a small
mammal found in woodland realms
(see Figure \ref{fig:marmot-edit1}).

\begin{figure}[h!]
        \centering
        \includegraphics[width=0.7\linewidth]{Marmot-edit1}
        \caption{A Marmot at Yosemite National Park}
        \label{fig:marmot-edit1}
\end{figure}
```

Your document should now look like this



Figures summary

- LaTex supports including graphics and images using the major image file formats (JPEG, PNG, TIF, others)
- You can use a TexStudio Image Wizard to add images to your document
  - The default image placement values are fine for simple graphics
- You can "hand code" image placement and features using the \figure{} environment and its parameters
  - You can have fine control over image placement, multiple images, etc
- Images can be captioned and labeled for cross reference using the \ref command