Chapter 1: Getting Started with Tkinter

```python
Python 3.6.4 (v3.6.4:d48ceeb, Dec 19 2017, 06:04:45) [MSC v.1900 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> from tkinter import *
>>> root = Tk()
>>> btn = Button(root, text= "Click me!")
>>> btn.config(command=lambda: print("Hello, Tkinter!"))
>>> btn.pack(padx=128, pady=30)
>>> root.title("My Tkinter app")
...
>>> root.mainloop()
Hello, Tkinter!
Hello, Tkinter!
```

![Diagram of a Tkinter window with a button and different states]

![Diagram of a Tkinter window with a listbox and two buttons]

![Diagram of a Tkinter window with a text input field and a button]
Chapter 2: Window Layout
Chapter 3: Customizing Widgets
The quick brown fox jumps over the lazy dog

This is the header

This is the subtitle

This is a paragraph

This is another paragraph
Hello, world

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Here you can find downloads, tutorials and more
Chapter 4: Dialogs and Menus
Information

Your user preferences have been saved

Warning

Temporary files have not been correctly removed

Error

The application has encountered an unknown error
<table>
<thead>
<tr>
<th>Name</th>
<th>Date Modified</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eddie-bot</td>
<td>12/1/2017 11:59 AM</td>
<td>File folder</td>
</tr>
<tr>
<td>eSupport</td>
<td>7/25/2016 1:25 AM</td>
<td>File folder</td>
</tr>
<tr>
<td>foodie-bot</td>
<td>12/15/2017 6:52 PM</td>
<td>File folder</td>
</tr>
<tr>
<td>intel</td>
<td>7/25/2015 12:51 AM</td>
<td>File folder</td>
</tr>
<tr>
<td>ISM300</td>
<td>1/17/2018 3:56 PM</td>
<td>File folder</td>
</tr>
<tr>
<td>logs</td>
<td>1/3/2013 7:02 PM</td>
<td>File folder</td>
</tr>
<tr>
<td>Microsoft</td>
<td>9/30/2017 8:01 PM</td>
<td>File folder</td>
</tr>
<tr>
<td>MyManFriday</td>
<td>12/11/2017 6:33 PM</td>
<td>File folder</td>
</tr>
<tr>
<td>node_modules</td>
<td>12/11/2017 1:01 PM</td>
<td>File folder</td>
</tr>
<tr>
<td>PerLogs</td>
<td>12/15/2017 2:45 PM</td>
<td>File folder</td>
</tr>
</tbody>
</table>

**File Menu**

- File
- About
- Quit

- New file
- Open
- Save
- Save as...
Typically, text inputs represent fields that follow certain validation rules, such as having a maximum length or matching a specific format. Some applications allow typing any kind of content into these fields and trigger the validation upon the whole form is submitted.

Under some circumstances, we want to prevent users from typing invalid content into a field. We will take a look at how to implement this behavior.

Almost every nontrivial GUI application is composed of multiple views. In browsers, this is achieved by the navigation from one HTML page to another and in desktop application, it is represented by multiple windows and dialogs that users interact with.
Chapter 5: Object-Oriented Programming and MVC

CSV Contact list

<table>
<thead>
<tr>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauford, Albertine</td>
</tr>
<tr>
<td>Greger, Bryce</td>
</tr>
<tr>
<td>Wetherald, Rickey</td>
</tr>
<tr>
<td>Onthank, Giustina</td>
</tr>
<tr>
<td>Clever, Ulric</td>
</tr>
<tr>
<td>Guthrum, Amble</td>
</tr>
<tr>
<td>Guppy, Austine</td>
</tr>
<tr>
<td>Farndale, Gerhardt</td>
</tr>
<tr>
<td>Wolfenden, Caressa</td>
</tr>
<tr>
<td>Holliar, Robbyn</td>
</tr>
<tr>
<td>MacAllaster, Lisabeth</td>
</tr>
<tr>
<td>Ottewell, Ketty</td>
</tr>
</tbody>
</table>

Contact

- Last name: Jeffries
- First name: Domenico
- Email: djeffriess@acme.com
- Phone: (979) 2015367

SQLite Contact...
**SQLite Contacts list**

**Contact**

- **Last name**: MacAllaster
- **First name**: Lisabeth
- **Email**: lmacallaster@acme.com
- **Phone**: (830) 3076674

**Add new contact**

![Diagram of MVC architecture](image)

- **Controller**
  - Sends events
  - Updates
- **Model**
  - Notifies
- **View**
Chapter 6: Asynchronous Programming
MainThread

thread.start()

thread.is_alive() = True
thread.is_alive() = True
thread.is_alive() = True

... time.sleep(5) ...

thread.is_alive() = True
thread.is_alive() = False

Thread-1

HTTP request example

Random value: 0.44879962871742207
Start
Ping statistics for 172.217.166.46:
   Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
   Minimum = 4ms, Maximum = 33ms, Average = 11ms
Chapter 7: Canvas and Graphics

[Diagram showing a basic canvas with axes, points, and a line with line options panel showing arrow style, fill color, and line width settings.]
Hello, world!
Chapter 8: Themed Widgets
items = [27, 28, 29, 30, 31]

week = [27, 28, 29, 30, 31]