100 Days of Code The Complete Python Pro Bootcamp

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100 Days of Code: The Complete Python Pro Bootcamp

Executive Summary

This repository is a comprehensive showcase of my journey through the "100 Days of Code: The Complete Python Pro Bootcamp" by Angela Yu. It demonstrates a broad array of foundational Python programming skills, highlighting my persistence, consistency, and passion for learning and mastering Python.

Throughout this intensive program, I have tackled various projects that encompass key programming concepts and skills essential for any aspiring data scientist or software developer. Each project builds upon the previous ones, progressively enhancing my understanding and proficiency in Python. This structured journey not only illustrates my proficiency in Python but also my ability to consistently apply these skills in practical scenarios, demonstrating my readiness for complex problem-solving and software development tasks in a professional setting.

Showcased Projects:

Project 1: Days 1 - 70 Blog Webapp Capstone Project

This project is a full-stack web application developed as part of Angela Yu's 100 Days of Code Bootcamp. It demonstrates the use of Flask, Bootstrap, PostgreSQL, and other technologies to create a functional and user-friendly blog web app.*

Figure 1: Link to Singularity Cybersecurity Web App.

Project 2: Days 39, 40 Flight-Club-Capstone-Project-Object-Oriented-Programming-API-Requests

Description: App that searches the web for flight prices and compares data to the prices listed in a google sheet. If it finds a better price it sends notifications by both text and email. Skills Demonstrated: Object Oriented Programming, API Requests.

Project 3: Day 53 Web-Scraping-Capstone-Project-Data-Entry-Automation

Skills Demonstrated: Use Beautiful Soup to Scrape Rental Price Data from Zillow Website and Selenium Webdriver to Automate Data Entry Into a Google Form and Sheet.

Singularity Cybersecurity
Secure Bleeding Edge Tech

Smart Contract Vulnerability Patches
Can immutable code be patched?

Posted by Rex Coleman on July 24, 2023

Figure 1: Web App

High-Level Summary of Skills:

- **Basic Python Skills**: Printing, Commenting, Debugging, String Manipulation, Variables, Data Types, Numbers, Operations, Type Conversion, f-Strings.
- **Control Structures**: Conditional Statements, Logical Operators, Code Blocks, Scope, For & While Loops, If/Else.
- **Data Structures**: Lists, Dictionaries, Nesting, Tuples, CSV Files, Pandas DataFrame.
- **Functions and Modules**: Functions with Inputs, Outputs, Arguments, Parameters, Modules, Importing.
- **Object-Oriented Programming (OOP)**: Creating Classes, Inheritance, Class Methods, Attributes, OOP Principles.
- **Error Handling**: Errors, Exceptions, Debugging.
- **File Handling**: Reading/Writing Files, JSON Data Handling.
- **APIs**: Making API Requests, Handling API Responses, Authentication, Environment Variables.
- **Web Development**: HTML, CSS, Flask, Bootstrap, SQLAlchemy, WTForms.
- **Graphical User Interfaces (GUIs)**: Tkinter for Building GUIs.
- **Automation and Web Scraping**: Selenium, Beautiful Soup.
- **Data Analysis**: Using Pandas for Data Manipulation, List & Dictionary Comprehensions.

Full Project List:

- Day 1 Band-Name-Generator - Skills Demonstrated: Printing, Commenting, Debugging, String Manipulation, Variables
- Day 2 Tip-Calculator - Skills Demonstrated: Data Types, Numbers, Operations, Type Conversion, f-Strings
- Day 3 Treasure-Island - Skills Demonstrated: Conditional Statements, Logidcal Operators, Code Blocks and Scope

- Day 4 Rock-Paper-Scissors - Skills Demonstrated: Randomization, Lists
- Day 7 Hangman - Skills Demonstrated: For & While Loops, If/Else, Lists, Strings, Range, Modules
- Day 8 Caesar-Cipher - Skills Demonstrated: Functions, Inputs, Arguments, Parameters
- Day 9 Blind-Auction - Skills Demonstrated: Dictionaries & Nesting
- Day 10 Calculator - Skills Demonstrated: Functions with Outputs
- Day 11 Blackjack - Skills Demonstrated: Review of Skills From Days 1 - 10
- Day 12 Guess-The-Number - Skills Demonstrated: Scope
- Day 14 Higher_Lower - Skills Demonstrated: Chunking Down a Problem into Manageable Pieces
- Days 15, 16 Coffee-Machine - Skills Demonstrated: PyCharm Setup, Object Oriented Programming
- Day 17 Quiz-Game - Skills Demonstrated: Creating Classes
- Day 18 Hirst-Painting - Skills Demonstrated: Turtle Graphics, Tuples, Importing, Modules
- Day 19 Turtle-Race - Skills Demonstrated: Event Listeners, State & Multiple Instances, Turtle Graphics
- Days 20, 21 & 24 Snake-Game - Skills Demonstrated: Object Oriented Programming, Class Inheritance, Slicing, Working with Files & Directories, Turtle Module
- Day 22 Pong-Game - Skills Demonstrated: Object Oriented Programming
- Day 23 Turtle-Crossing - Skills Demonstrated: Create Classes, Inherit Classes, Use Objects, Turtle Coordinate System, Turtle Game Engine
- Day 24 Mail-Merge - Skills Demonstrated: Working With Local Files & Directories
- Day 25 US-States-Game - Skills Demonstrated: Working with CSV Files and Analyzing Data with Pandas
- Day 26 NATO-Alphabet - Skills Demonstrated: List & Dictionary Comprehension
- Day 27 Unit-Converter - Skills Demonstrated: Graphical User Interfaces w/ Tkinter, Default Arguments, *Args, **Kwargs
- Day 28 Pomodoro-App - Skills Demonstrated: Graphical User Interfaces w/ Tkinter, Default Arguments, *Args, **Kwargs
- Days 5, 29, 30 Password-Manager - Skills Demonstrated: Errors and Exception Handling, Saving JSON Data, Graphical User Interfaces w/ Tkinter, For Loops, Range, Code Blocks
- Day 31 Flash-Card-Project - Skills Demonstrated: Handling Exceptions, Using JSON Data Format, Parsing & Reading CSV's Using Pandas, Opening & Writing Files
- Day 32 Birthday-Wisher - Skills Demonstrated: Email SMTP, Datetime Module, Environment Variables
- Day 33 International-Space-Station-Tracker - Skills Demonstrated: Application Programming Interfaces (APIs), SMTP, Environment Variables, International Space Station API
- Day 34 Quizzler-App - Skills Demonstrated: API Requests & Parameters
- Day 35 Rain-Alert-App - Skills Demonstrated: API Keys, Authentication, Environment Variables, Sending SMS via Twilio, OpenWeatherMap API
- Day 36 Stock-News-Alert-App - Skills Demonstrated: Secure API Requests (Get Request Stock Data From Alpha Advantage API, Get Request News Data From News API, Send Text Via Twilio API)
- Day 37 Habit-Tracker - Skills Demonstrated: API Advanced Authentication and POST / PUT / DELETE Requests
- Day 38 Workout-Tracking - Skills Demonstrated: API Post Request to Leverage User Input and AI Exercise Tracking Tool - Nutritionix - to Generate JSON Data, API Post Request to Update Google Sheet -Sheety.
- Days 39, 40 Flight-Club-Capstone-Project-Object-Oriented-Programming-API-Requests - Description: App that searches the web for flight prices and compares data to the prices listed in a google sheet. If it finds a better price it sends notifications by both text and email. Skills Demonstrated: Object Oriented Programming, API Requests
- Day 41 Birthday-Invite-Project - Skills Demonstrated: HTML Boilerplate
- Day 42 CSS-Selectors - Skills Demonstrated: CSS Selectors
- Day 43 Adding-CSS - Skills Demonstrated: Adding CSS (Inline, Internal, External)
- Day 44 Motivation-Meme-Project - Skills Demonstrated: CSS Fundamentals
- Day 45 Top-100-Movies - Skills Demonstrated: Using Web Scraping With Beautiful Soup, List Slicing, List Comprehension, and Local File Writing to Create a Top 100 List of Movies to Watch

- Day 46 Spotify-Playlist-Scraping-The-Billboard-Top-100 - Skills Demonstrated: Create a Spotify Top 100 Playlist Generated by User Selecting a Date and Using Beautiful Soup to Scrape Data form The Billboard Top 100 Website. Note: This Project Introduces a Future Security Lessons Learned with The Token File. This is a Low Risk Dev Spotify Account.
- Day 47 Amazon-Price-Tracker - Skills Demonstrated: Track the Price of an Item on Amazon.com with Beautiful Soup Web Scraping and Send an Email Notification When it is Time to Buy
- Day 48 Cookie-Clicker-Game-Automation - Skills Demonstrated: Use Selenium Webdriver to Automate Playing the Cookie Clicker Web Browser Game
- Day 53 Web-Scraping-Capstone-Project-Data-Entry-Automation - Skills Demonstrated: Use Beautiful Soup to Scrape Rental Price Data from Zillow Website and Selenium Webdriver to Automate Data Entry Into a Google Form and Sheet
- Days 54, 55 Higher_Lower_With_Web_Development - Skills Demonstrated: Advanced Decorators, Web Development with Flask, Rendering HTML, Parsing URLs, Flask Debugging, Command Line
- Day 58 TinDog_Bootstrap - Skills Demonstrated: Tinder for Dogs Using Bootstrap
- Day 62 Coffee_And_Wifi - Skills Demonstrated: Website that uses (Flask, WTForms, Bootstrap and CSF) to List Local Cafes and Rates Them by the Qualities that Matter to Digital Nomads (Coffee, Power, Wifi)
- Day 63 Personal_Library - Description: Website that Lists Personal Reading Library - Skills Demonstrated: Adding a Database into a Website with SQLAlchemy with Create, Read, Update and Delete Operations.
- Day 64 Top_Movies - Description: Website that Compiles a List of Favorite Movies - Skills Demonstrated: Flask/WTForms/SQLite/SQLAlchemy
- Day 66 Cafe_Restful_API - Skills Demonstrated: A Restful API for Local Cafe Data, Postman for Testing
- Day 68 Flask_Authentication - Description: Website that Requires Authentication to Access a File - Skills Demonstrated: Flask, Authentication, Password Hashing and Salting