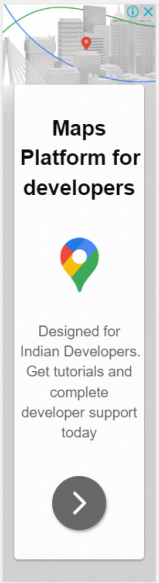
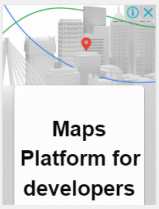
Python Projects +
Python Django Projects +
Machine Learning Proje... +
Deep Learning Projects +
AI Projects +
Python Interview Questi... +
Python Quiz +





Python Projects for 2022 – Work on Real-time Projects to Head Start Your Career

Free Python course with 35 real-time projects Start Now!!

Gaining Python expertise with real-time projects will be your best investment in 2022.

So, if you want to master Python, then it is crucial to work on live python projects.

In this article, DataFlair is providing you **Python projects** from beginners to advanced level so that you can easily learn Python by practically implementing your knowledge.

WAIT!!

Do you often find yourself short of really cool projects to work upon?

Okay, not anymore. Because we care for you and have compiled a list of over 500+ project ideas.

Quickly bookmark this and dedicate all your time in implementing the projects & become industry-ready.

1. Python Projects
2. Python Django (Web Development) Projects
3. Python Artificial Intelligence Projects
4. Python Machine Learning Projects
5. Python Data Science Projects
6. Python Deep Learning Projects
7. Python Computer Vision Projects
8. Python Internet of Things Projects

Basic Python Projects

In this section, we will provide a list of Python projects which are good for beginners.

We are also providing source code with few python projects.

If you already know the basics very well, you can jump to the intermediate section below.

1. Hangman Project in Python

Python Project Idea – The objective of this project is to implement the hangman game using Python.

This project doesn't require any external modules rather just needs random and time modules of Python.

Python functions and loops are enough to develop a hangman game

Source Code – Hangman Python Project

2. Rock Paper Scissors Python Game

Python Project Idea – The rock paper scissors is a game played between two players that have few sets of rules.

We can define the rules and conditions of who wins the game based on the player's pattern.

Source Code – Rock Paper Scissor Python Project

3. Dice Rolling Simulator in Python

Python Project Idea – The dice rolling simulator will imitate the experience of rolling a dice.

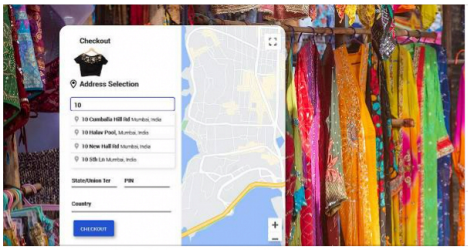
It will generate a random number and the user can play again and again to get a number from the dice until the user decides to quit the program.

Source Code: Dice Rolling Simulator Python Project

4. Email Slicer Project

Python Project Idea – The email slicer is a handy program to get the username and domain name from an email address.

You can customize and send a message to the user with this information.



Checkouts made easier, quicker
Get started with Google Maps Platform's standardised addresses to make checkouts easier
Google Maps Platform
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5. Mad Libs Generator Python Game

Python Project – Mad libs generator is a fun game for kids.

This is a project for absolute beginners.

The project will randomly create stories with a few customizations.

You can ask users to input a few words like name, action, etc, and then it will modify the stories using your words.

Source Code – [Python Mad Libs Generator]

6. Message Encode Decode in Python Project

Python Project – Secure sensitive information by encoding messages.

The objective of this project is to encode (or encrypt) and decode messages using a common key.

This Python project will be built using Tkinter and base64 library.

Source Code: [Python Message Encode Decode]

7. Magic 8 Ball Game

Python Project Idea – The magic 8 ball is a fortune-telling ball that is used to make decisions for a yes or no question.

Create random 20 responses in which 10 are affirmative, five non-committal, and five negative sentences and then we will give the user a random response from the 20 responses.

8. Target Practice Game

Project Idea – Nowadays many shooting games are on the rise in the gaming community.

Those games require extreme aiming capabilities by clicking at the accurate position as soon as possible.

We can build a game where gamers can practice their shooting aim.

9. Alarm Clock with GUI

Python Project Idea – The objective of this project is to implement an alarm clock using Python.

Python consists of very useful libraries such as datetime and tkinter which help us to build this project using the current date and time.

Apart from this, they provide a user interface to set the alarm according to the requirement in 24-hour format.

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Source Code – [Alarm Clock in Python]

10. Binary Search Algorithm

Python Project Idea – The binary search algorithm is a very effective way to search for an element in a long list.

The idea is to implement an algorithm that searches for an element in a list.

Source Code: [Binary Search in Python]

11. Desktop Notifier App in Python

Python Project Idea – A desktop notifier app runs on your system and it will be used to send you notifications after every specific interval of time.

You can use the libraries like notify2, requests, etc to build this app.

12. Convert Text to Speech in Python

Python Project Idea – Convert your text into voice with Python and Google APIs.

Text to speech project takes words as input on digital devices and converts them into audio or speech with a button click or finger touch.

Source Code: [Text to Speech in Python Project]

13. Clickomania Game

Project Idea – In the game of clickomania, you have to click on the group of boxes having the same colors.

The goal is to remove as many boxes as possible and you will win when all the boxes are removed.

14. Python Battleship Game

Project Idea – The battleship game can be played in the command line.

The idea is to build a square matrix containing zeroes and we will place a battleship randomly on the grid.

The user has a few chances to drop a bomb on the location of the ship by guessing. After a few incorrect guesses, the game will be over.

15. Youtube Videos Downloader

Python Project Idea – Another interesting project is to make a nice interface through which you can download youtube videos in different formats and video quality.

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Source Code: [Python YouTube Downloader]

16. Language Translator in Python Project

Python Project Idea – Instantly translate texts, words, paragraphs from one language to another.

The objective of this python project is to translate text content from one language to any other language in real-time with a button click. It is recommended to create a graphical user interface using tkinter and provide a nice user experience.

17. Python Website Blocker

Python Project Idea – Build an application that can be used to block certain websites from opening.

This is a very helpful program for students who want to focus on their studies and don't want any other distractions like social media. Parents can also use this project to block unwanted websites and keep their children away from offensive websites.

18. Python Flappy Bird Game

Python Project Idea – The flappy bird game developer made millions from a very simple game.

It was a simple game but very tough to play, which led to frustrations in people and somehow it became very popular.

Many other versions of the game have been made and you can build too! The rules are simple in which a bird has to avoid obstacles while flying.

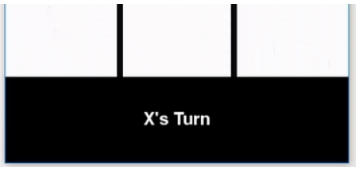
You can implement this project using PyGame APIs. PyGame provides a nice interface for gaming projects. Although it's not limited to gaming, we can implement other desktop GUI projects using PyGame.

Any doubts in Python projects till now? or do you want any specific project? Mention them in the comment section.

Intermediate Python Projects

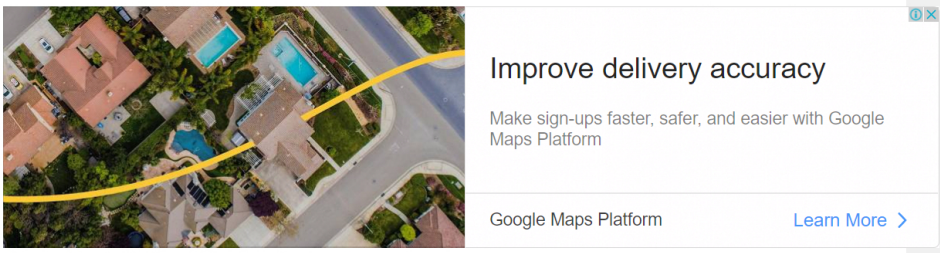
1. Python Tic Tac Toe Game

Learn more



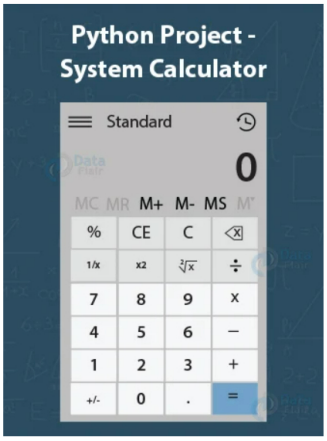
Project Idea – The tic tac toe game is played between two players in which the user has to mark 3 consecutive 'X' or 'O' to win the game either horizontal, vertical or diagonally.

The classic tic-tac-toe game which you must have played in childhood, implementation of this game in python is pretty interesting you will learn tons of APIs and python concepts. You need to build a GUI for playing the game.



Source Code: Python Tic Tac Toe Project

2. Calculator in Python

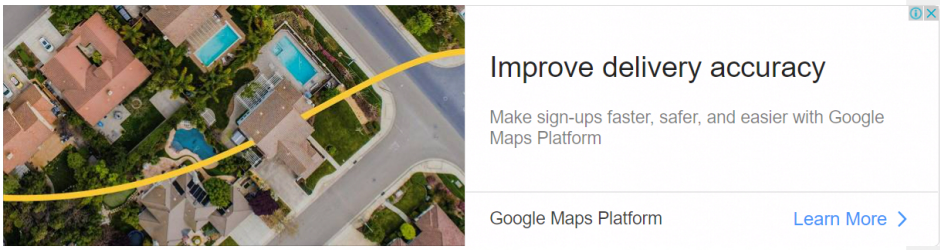


Python Project Idea – Build a graphical user interface calculator using a library like Tkinter in which we build buttons to perform different operations and display results on the screen.

You can further add functionalities for scientific calculations.

Source Code – **Simple Calculator in Python**

3. 2048 Python Game



Project Idea – The 2048 game is a single-player game in which the user has to slide the tiles and the tiles with the same number will merge by combining their values. The game gets over when all the tiles are filled.

Implement the popular 2048 game in python and move ahead towards achieving python expertise.

Source Code: **2048 Game in Python**

4. Countdown Clock and Timer

Python Project Idea – You can build a desktop application of a countdown timer in which the user can set a timer and then when the time is completed, the app will notify the user that the time has ended.

Create a simple countdown timer and display notifications based on requirements: one with this project app and another one directly on the desktop to remind the user of the time elapsed. This python project requires good understanding of python functions and Tkinter widgets. It's a utility app for daily life tasks.

Source Code: Countdown Timer in Python

5. Currency Converter in Python

Python Project Idea – Develop an exciting python project through which you can convert currencies. In this project, we will get real-time exchange rates for conversion. User needs to select from and to currencies, like convert from USD to INR, now supply the value and hit the convert button to get the desired results.

This is an intermediate level python project which will boost your confidence. For a user interface, we can use tkinter API.

Source Code: Currency Converter Project

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Python Projects – It's time to move to next level

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6. Random Password Generator in Python

Python Project Idea – Creating a strong password is a tedious task.

We can build an app to generate strong passwords randomly that contain alphabets, characters, and digits. User can specify the guidelines on no of characters, special characters, numbers, etc to create unpredictable strong passwords.

The user can also copy the password so that they can directly paste it when creating the website.

Source Code: Python Password Generator Project

7. Memory Puzzle Game

Project Idea – Memory puzzle is a great game to enhance your concentration power and improve your memory.

At the starting of the game, the shapes are displayed for a second and then they are covered.

One by one user selects the tile to uncover and when two similar shapes are uncovered the score gets increased.

This way we have to uncover all the pairs of shapes.

Source Code: Memory Puzzle Game in Python

8. Address Book in Python

Project Idea – The objective of this python project is to create an address book where user can store the contact details.

With this address book or contact book, we can create, edit, delete contact details. This project provides a gui interface to manage contact information.

Source Code: Create Address Book in Python

8. Slide Puzzle Game

Project Idea – In this puzzle game, we have to slide the tiles one by one in order to set every tile in the right place.

There is only one space empty in the grid so while developing we have to make sure that the tile can only move on the empty places.

9. Text Editor in Python

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Python Project – In this project, we will develop a simple text editor or notepad in python.

We will also implement basic functionalities like changing the font, font style, saving a document, etc.

Source Code: [Notepad in Python]

9. Python Snake Game

Project Idea – I'm sure everyone has played a snake game before.

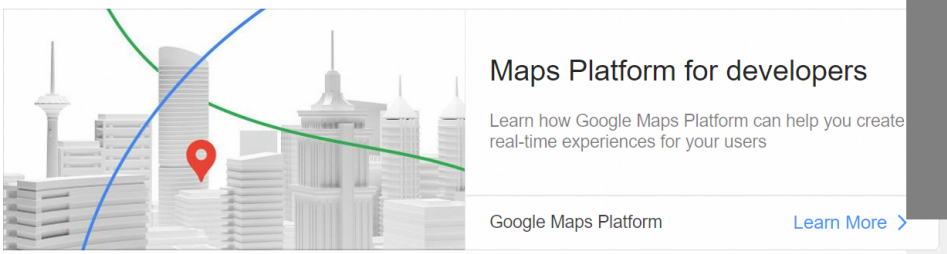
It is very interesting to understand and build your own version of the snake game. Try to modify and enhance the game with your imagination.

Source Code: [Python Snake Game Project]

10. Random Wikipedia Article

Python Project Idea – The project is used to get a random article from Wikipedia and then we ask the user if he wants to read the article or not.

If the answer is yes, then we show the article otherwise we fetch another random article.



11. Reddit Bot

Python Project Idea – Reddit is a great platform and we can program a bot to monitor subreddits.

They can be automated to save a lot of our time and we can provide useful information to the Redditors.

12. Python Command-Line Application

Python Project Idea – Python is great for building command-line applications.

You can build a nice CLI interface through which you can send emails to other people. It will ask the user for credentials and the data it needs to send and then we can send the data using a command line.

13. Instagram Bot in Python

Python Project Idea – The Instagram bot project is made to automate some of the basic tasks like automatically liking, commenting, or following people. Create Python Instagram bot using Selenium, BeautifulSoup, and standard python libraries like: random, time, requests.

The frequency must be low because sending excessive requests to Instagram servers might get you deactivated.

Source Code – [Python Instagram Bot]

14. Steganography in Python

Python Project Idea – Steganography is the art of hiding a message into another form such that no one can suspect the existence of the hidden message.

For example, a message is hidden inside an image or a video. The project will be useful to hide messages inside the images.

Create python steganography project with Tkinter and Stegano.

Source Code – [Python Steganography Project]

15. Python Pacman Game

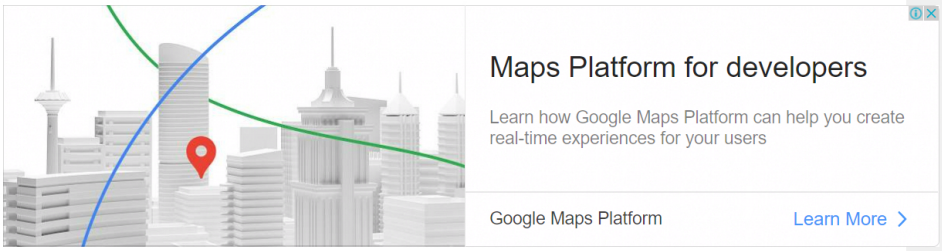
Project Idea – The popular game Pacman is a fun project to build.

We have to eat all the food in a maze and avoid all the ghosts that will come to eat the Pacman.

This is a nice arcade game and will require you to have knowledge of the interacting game.

16. Python Ping Pong Game

Project Idea – The ping pong game is a popular two-player game in which both players have a small rectangle slag with which they can hit the ball.



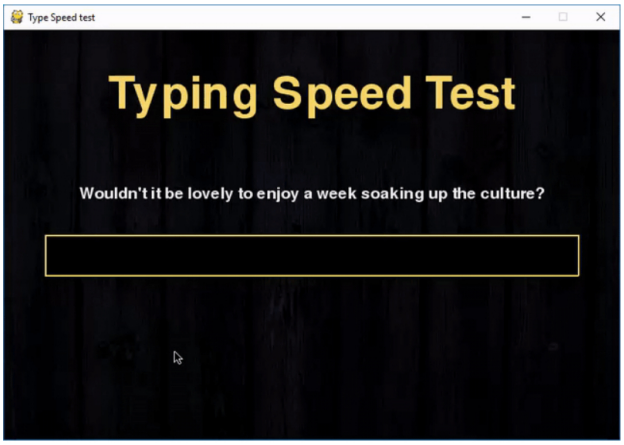
The player who misses the ball will lose the game.

Get ready to crack your first interview with DataFlair's [150+ Python interview questions and answers](#).

Advanced Python Projects

Next in DataFlair's Python projects article, let's discuss some advanced python projects to improve your resume and to make you job-ready.

1. Speed Typing Test in Python

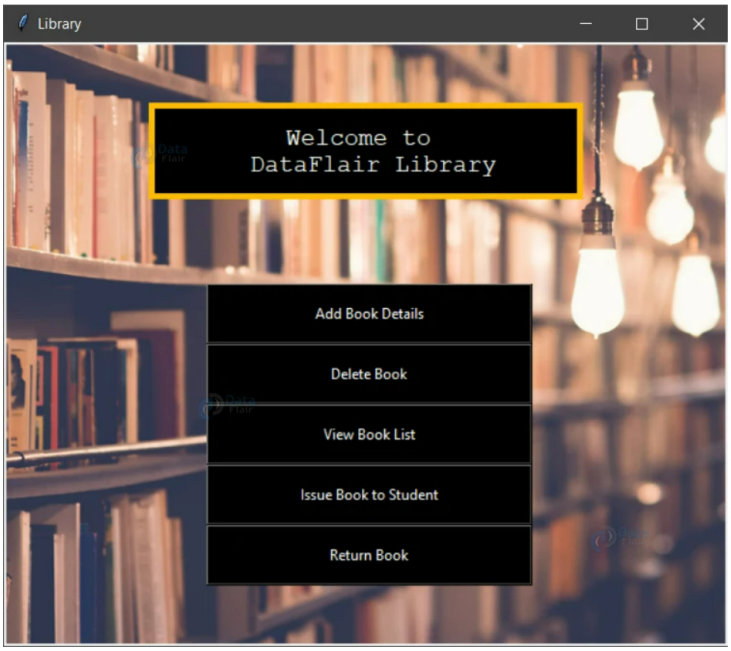


Python Project Idea – The speed typing test is a project through which you can test your typing speed.

You have to make a graphical user interface with a GUI library like Tkinter then the user has to type a random sentence and when the user completes the typing, we display the typing speed, accuracy and words per minute.

Source Code – *Python Project on Typing Speed Test*

2. Library Management System



Learn more

Python Project – The objective of library management system project is to develop a real-time library project with Tkinter.

This project provides functionalities like add book, issue book, return the book, viewbook, delete a book, etc.

Source Code – [Library Management System Python Project]

3. Python Ludo Game

Project Idea – The game of ludo is a strategy based game played between 4 players.

Each player has 4 tokens that he needs to circulate in the defined path by rolling a dice.

The other players can become an obstacle when they come in the same place and you have to restart your token again.

The one who circulates all the four tokens wins.

4. Keyboard Jump Game

Project Idea – Keyboard jump is a speed typing game that helps in improving the typing speed of players.

The character in our game will jump only when we type the word that is specified.

When the user makes a few errors while typing then the game gets over and we can show the typing score.

Source Code: [Keyboard Jump Game]

5. Pinball Game

Project Idea- Pinball game is a very interesting arcade game of all time.

It will be fun to build a pinball game using pygame library and adding obstacles in the game.

You will need some physics concepts to calculate the projection of the ball.

6. Content Aggregator

Python Project Idea – This is an interesting python project.

There are lots of information and articles on the internet.

Finding good relevant content is hard so a content aggregator automatically searched the popular websites, looks for the relevant content and creates a list for you to browse the content.

The user can select which content they want to look or not.

7. Bulk File Rename/ Image Resize Application

Python Project Idea – Machine learning tasks include preprocessing of the data.

We need to perform resize and rename images in bulk, so an application that can handle these tasks automatically will be very helpful for machine learning practitioners.

8. 2D Drag Racing Game

Project Idea – Drag racing is a type of racing in which the drivers move in a straight line.

To win the game, the driver has to change the car gears at the most optimal time.

With this project, you can learn to build dynamic interactive parts of the game.

9. Fruit Ninja Game

Project Idea – The fruit ninja game is popular among kids where fruit is thrown in the air and we have to slice the fruit by clicking on the fruit.

Players must slice all fruit; if three fruits are missed, the game ends. Bombs also come on screen occasionally and slicing them also ends the game.

This game can be implemented with pygame library of Python.

You will have to animate the slicing of the fruit in this project.

Source Code: [Python Fruit Ninja Game]

Python Projects – Your pathway to excellence in Python Programming

10. Python File Manager

Python Project Idea – Build a file manager project through which you can explore the files in your system, manage, search and copy-paste them to different locations.

This project will use a lot of knowledge on various concepts of Python programming language.

11. Plagiarism Checker in Python

Python Project Idea – This is one of the most interesting Python projects.

The idea behind this project is to build a GUI application that you can use to check for plagiarism.

To build this project, you need to use a natural language processing library along with the Google search API that will fetch top articles to you.

12. Web Crawler in Python

Python Project Idea – A web crawler is an automated program script that browses the world-wide-web and it can look and store the contents of the webpage.

This process is called web crawling.

The search engines like Google use this technique to find up to date information.

Make sure to use the multithreading concept.

13. Music Player in Python

Python Project Idea – Everyone enjoys listening to good music.

You can have fun while learning by building a music player app.

The music player can also search for the files in directories and building an interactive interface would be a challenging task that is best for advanced programmers.

Source Code: [Python Music Player]

14. Price Comparison Extension

Python Project Idea – This is an amazing project in which you can compare prices of a product from multiple web sources.

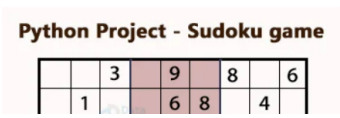
Just like on Trivago website, we can compare the hotel prices, similarly, we can compare the prices of a product on websites like Amazon, Snapdeal, Flipkart, etc and display the best offers.

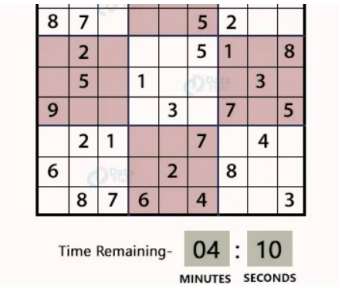
15. Tetris Game

Project Idea – I'm sure you have played Tetris game before.

It is a good project to build this game as it involves lots of transformation on the elements of the game based on the keyboard inputs.

16. Python Sudoku Game





Project Idea – In the sudoku game we have a 9×9 grid and it contains 3×3 grids having numbers from 1 to 9.

It's a puzzle game and you have to find the missing numbers in empty places.

Implement a timer in the game and also provide a way to display hint to the user.

Source Code – [Python Sudoku Game Project]

17. Tank Fight Game

Project Idea – In this game of Tank fight, there will be two players with their tanks and a mountain beneath them.

Each player will shoot a missile one by one on each other and their goal is to make the other player fall out of the mountain cliff.

18. COVID-19 Spread Analysis with Python

Project Idea – The objective of this project is to implement a real-time dashboard for COVID 19 spread analysis.

This live dashboard will provide many insights for the study of coronavirus spread.

Source Code – [COVID-19 Spread Analysis]

19. Instagram Photo Downloader Project

Python Project Idea – The Instagram photo downloader project is used to download all the Instagram images of your friends.

It will use your credentials to access your account and then search your friends to download their photos.

Summary

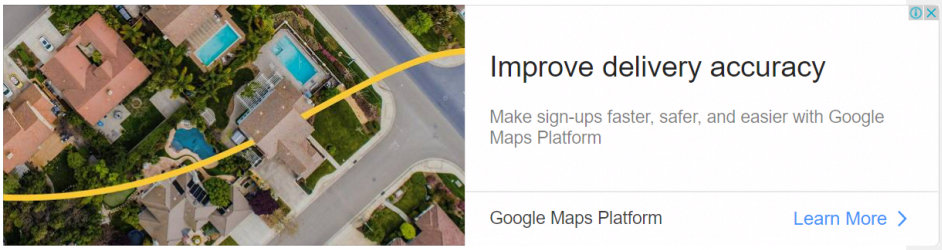
In today's article, we have discussed tons of Python projects covering all the three stages of programmers.

At first, we have discussed basic project ideas for beginners including number guessing, dice rolling simulator, etc.

Then, we have discussed some more engrossing intermediate level python projects including a random password generator, Instagram bot, etc.

In the end, we have covered some advanced projects for experts such as content aggregator, speed typing tests, etc.

We work very hard to provide you quality material
Could you take 15 seconds and share your happy experience on [Google] | [Facebook]



Tags: Advanced python project | advanced python project ideas | basic python project | basic python project ideas | Dice Rolling Simulator in Python | interesting Python project | intermediate python project ideas | intermediate python projects | Music Player in Python | Plagiarism Checker in Python | python project examples | python project for beginners | python project ideas | Python Projects | python projects for college | Steganography in Python | Top Python Projects | Web Crawler in Python

24 RESPONSES

Comments 24 | Pingbacks 0

Deepak December 31, 2019 at 9:51 pm
It's a awesome idea
Reply

DataFlair Team January 2, 2020 at 9:21 am

Hi Deepak,

Spread the word on social media & let others also take benefit from it.

Reply

karthik May 11, 2021 at 9:57 am

i need sonar data rock vs mine project

Reply

Aman Rai January 2, 2020 at 4:16 pm

What are project from above of these I can put in my resume

Reply

DataFlair Team September 20, 2020 at 12:56 pm

You can add any of above python projects in your resume, but make sure to work thoroughly before adding them in the resume.

Reply

abhishek January 2, 2020 at 10:41 pm

Hey, Its an awesome content. Most other contents only show projects of same level. Variety among them is also broad. Thanks for the stuff, keep up with the good work

Reply

DataFlair Team January 3, 2020 at 9:18 am

Hi Abhishek,

Do share our Python project ideas article on social media groups so that others can also take benefit from it.

Reply

Attila February 15, 2020 at 4:04 pm

Solutions?

Reply

Sunanda March 15, 2020 at 10:49 pm

Can I get brief explanation about stenography and website blocker projects

Reply

DataFlair Team September 20, 2020 at 12:58 pm

The website blocker project has been published, you can have a look at the description and source code

Reply

MINTU KRISHNA April 12, 2020 at 8:05 pm

I just started learning Python Programming to build knowledge in computer programming, I have no any idea about programming I just started to learn Python. After learning this amazing programming language I want to make GST Invoice software for small business, I want to know that is it is possible in Python. Thanks

Reply

DataFlair Team September 20, 2020 at 1:20 pm

Python is a general purpose programming language.
Yes, you can develop GST Invoice application in Python

Reply

Sanjay Bhagwat April 20, 2020 at 11:49 pm

Hello sir, I am non technical person but I am interested to learn python and make above project.. But sir if learned made some project so is there chances to get the job for me also on basis knowledge

Reply

DataFlair Team September 20, 2020 at 1:08 pm

Python is the hottest programming language on the planet. If you master Python and work on the above projects, you can get a job in this field.

Reply

Rachitipi April 22, 2020 at 7:57 pm

I think project here very advanced. Very very good. I am working on speed typing testu. All advanced projects can add into portfolio you.

Reply

DataFlair Team September 20, 2020 at 1:07 pm

Happy to see you like our efforts, keep visiting DataFlair – Learn Today. Lead Tomorrow.

Reply

brunda July 11, 2020 at 9:18 pm

i have just started learning python.And im intersted in doing projects. Can v add these projects in resume for internship ?

Reply

Rahul September 16, 2020 at 11:54 pm

Yes, you can add these projects in your resume, keep learning keep growing 😀

Reply

Arun February 2, 2021 at 7:46 am

Awesome List!

Reply

DataFlair Team March 24, 2021 at 2:56 pm

Thanks for liking Python project Ideas by DataFlair. Do not miss to check Python Interview questions before you appear for any interview.

Reply

karthik May 11, 2021 at 9:57 am

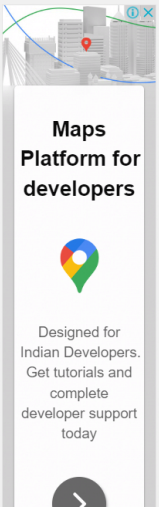
i need sonar data rock vs mine project

Reply

Sunanda August 2, 2021 at 12:26 pm

It's really useful to us.Who has a doubt about python using in real time.

Reply



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JD August 6, 2021 at 8:16 pm

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Soundhariya 639 July 5, 2022 at 7:19 am

Thanku for giving so much sources 🙏

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