Insight into python coding and flask application

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The combination of Python and Flask offers a powerful yet straightforward toolset, enabling efficient development of robust web applications with ease.

01

Personal Projects and Small-scale Applications:

Flask is suitable for personal projects, blogs, portfolio websites, and small-scale applications where a lightweight framework is sufficient and rapid development is desired.

02

Data Visualization:

Flask can be used to create web applications that visualize data, displaying information in charts, graphs, or interactive dashboards. It integrates well with libraries like Plotly, Matplotlib, or Bokeh.

03

API Development:

Flask is suitable for building RESTful APIs (Application Programming Interfaces). It allows developers to create APIs for communication between different services, web applications, or mobile apps.

04

Custom Web Services

Developers use Flask to create custom web services or utilities, such as URL shorteners, file upload/download services, chatbots, and more.

Installation

In windows use microsoft store,
In Linux use “sudo apt install python3” in terminal

Simple Flask app structure

```
flask/
│
├── static/
│   ├── css/
│   │   └── style.css
│   ├── js/
│   │   └── script.js
│   └── imgages/
│       └── logo.png
│
├── templates/
│   ├── index.html
│   ├── page1.html
│   └── page2.html
│
├── venv/ (virtual environment - optional)
│
├── requirements.txt
└── app.py
```

Installation and run

Navigate to flask folder
In windows use cmd -> cd C:\Users\karthik\desktop\flask
In Linux use terminal -> cd /home/karthik/desktop/flask

pip install -r requirements.txt

python3 app.py

Output in browser http://127.0.0.1:5000/

Flask coding structure

```
from flask import Flask, render_template

app = Flask(__name__)

# Routes
@app.route('/')
def index():
    return render_template('index.html')

# Other routes and logic...

if __name__ == '__main__':
    app.run(debug=True)
```

html coding structure

```
<html>
<head>
    <title>Your Title Here</title>
    <link rel="stylesheet" type="text/css" href="{{ url_for('static',
filename='styles/index.css') }}">
</head>
<body>
    <h1>Welcome to My Website</h1>

    <nav>
        <ul>
            <li><a href="#home">Home</a></li>
        </ul>
    </nav>
<br>
    <p>Another paragraph with a <a href="#">link</a>.</p>
    <ul>
        {% for task in tasks %}
            <li>{{ task }}</li>
        {% endfor %}
    </ul>
</body>
</html>
```

CSS coding structure

```
body {
    font-family: Arial, sans-serif;
    margin: 0;
    padding: 0;
    background-color: #f2f2f2;
}
h1 {
    text-align: center;
    color: #333;
}
nav ul {
    list-style-type: none;
    text-align: center;
}
p {
    line-height: 1.6;
    color: #444;
}
```

Dynamic hosting server

1. python anywhere
   - Free education account
   - No delays
   - Out bound internet restriction
2. render
   - Allows outbound internet
   - Delays

THANK YOU

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