

Assignment 1: Flask and FastAPI code

1. What is an API?

API (Application Programming Interface) allows communication between frontend and backend applications using HTTP methods.

2. What is Flask?

Flask is a lightweight Python web framework used to build web applications and REST APIs.

Flask Example code :

```
from flask import Flask
```

```
app = Flask(__name__)
```

```
@app.route("/")
```

```
def home():
```

```
    return "Hello from Flask API"
```

```
if __name__ == "__main__":
```

```
    app.run()
```

Output:

Hello from Flask API

3. What is FastAPI?

FastAPI is a modern, fast Python framework for building APIs with automatic documentation.

FastAPI Example code:

```
from fastapi import FastAPI
```

```
app = FastAPI()
```

```
@app.get("/")
```

```
def home():
```

```
    return {"message": "Hello from FastAPI"}
```

Output:

```
{"message": "Hello from FastAPI"}
```

4. Swagger UI

FastAPI provides automatic documentation at /docs.

5. Flask vs FastAPI

Flask: Simple, flexible, manual validation

FastAPI: Fast, automatic validation, auto docs

Conclusion:

Flask is best for learning and small projects.

FastAPI is best for scalable and production APIs.