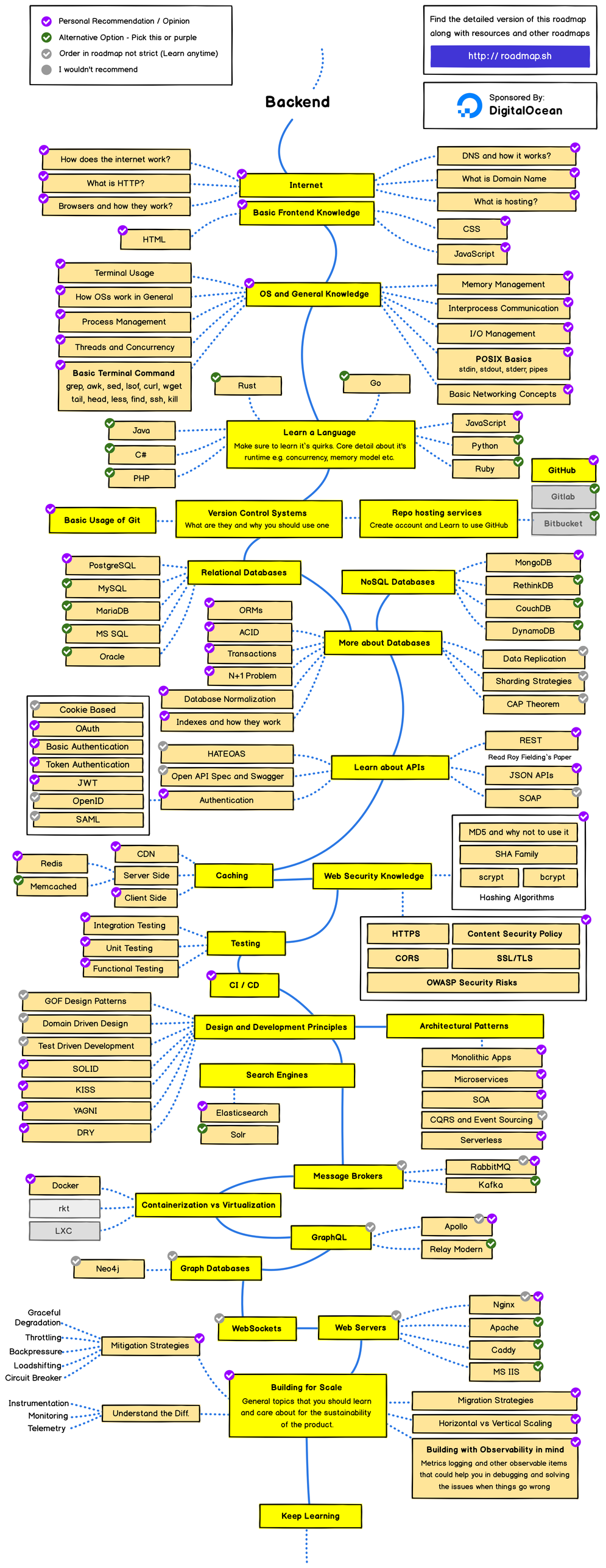
Personal Recommendation / Opinion
Alternative Option - Pick this or purple
Order in roadmap not strict (Learn anytime)
I wouldn't recommend
Find the detailed version of this roadmap along with resources and other roadmaps
http:// roadmap.sh
Sponsored By:
DigitalOcean
Backend
Internet
How does the internet work?
What is HTTP?
Browsers and how they work?
DNS and how it works?
What is Domain Name
What is hosting?
Basic Frontend Knowledge
HTML
CSS
JavaScript
OS and General Knowledge
Terminal Usage
How OSs work in General
Process Management
Threads and Concurrency
Basic Terminal Command
grep, awk, sed, lsof, curl, wget tail, head, less, find, ssh, kill
Memory Management
Interprocess Communication
I/O Management
POSIX Basics
stdin, stdout, stderr, pipes
Basic Networking Concepts
Learn a Language
Make sure to learn it's quirks. Core detail about it's runtime e.g. concurrency, memory model etc.
Rust
Go
Java
C#
PHP
JavaScript
Python
Ruby
Version Control Systems
What are they and why you should use one
Basic Usage of Git
Repo hosting services
Create account and Learn to use GitHub
GitHub
Gitlab
Bitbucket
Relational Databases
PostgreSQL
MySQL
MariaDB
MS SQL
Oracle
NoSQL Databases
MongoDB
RethinkDB
CouchDB
DynamoDB
More about Databases
ORMs
ACID
Transactions
N+1 Problem
Database Normalization
Indexes and how they work
Data Replication
Sharding Strategies
CAP Theorem
Learn about APIs
REST
Read Roy Fielding's Paper
JSON APIs
SOAP
HATEOAS
Open API Spec and Swagger
Authentication
Cookie Based
OAuth
Basic Authentication
Token Authentication
JWT
OpenID
SAML
Web Security Knowledge
MD5 and why not to use it
SHA Family
scrypt
bcrypt
Hashing Algorithms
HTTPS
Content Security Policy
CORS
SSL/TLS
OWASP Security Risks
Caching
CDN
Server Side
Client Side
Redis
Memcached
Testing
Integration Testing
Unit Testing
Functional Testing
CI / CD
Design and Development Principles
GOF Design Patterns
Domain Driven Design
Test Driven Development
SOLID
KISS
YAGNI
DRY
Architectural Patterns
Monolithic Apps
Microservices
SOA
CQRS and Event Sourcing
Serverless
Search Engines
Elasticsearch
Solr
Message Brokers
RabbitMQ
Kafka
Containerization vs Virtualization
Docker
rkt
LXC
GraphQL
Apollo
Relay Modern
Graph Databases
Neo4j
WebSockets
Web Servers
Nginx
Apache
Caddy
MS IIS
Mitigation Strategies
Graceful Degradation
Throttling
Backpressure
Loadshifting
Circuit Breaker
Building for Scale
General topics that you should learn and care about for the sustainability of the product.
Understand the Diff.
Instrumentation
Monitoring
Telemetry
Migration Strategies
Horizontal vs Vertical Scaling
Building with Observability in mind
Metrics logging and other observable items that could help you in debugging and solving the issues when things go wrong
Keep Learning