
MIDTERM REVIEW

WEEK 8 – 10/14/2019

ANNOUNCEMENTS



Homework 2 has been delayed to Friday 18th October. Will be due on 1st November.
I recommend starting early on this one as there are many more things coming your way in the next couple of weeks.



No labs this week.
No Lecture on Wednesday. I will be holding office hours (12pm-3pm) in addition to the usual hours in case you have doubts.

EXAM DETAILS

- https://canvas.colorado.edu/courses/53898/discussion_topics/304696
- Accommodations students have been informed via email
- Please make sure you check the room you're supposed to be in for the exam. If you have questions, feel free to reach out.

EXAM PATTERN

Quiz will be administered on Canvas during the stipulated exam time

It will be present within this week's module on Canvas

You will be provided a passcode to unlock the quiz at the time of

It is a 45 min quiz

Roughly 20 - 25 questions

100 points or 10% of your final grade

TYPES OF QUESTIONS

Multiple Choice, single

Multiple Choice, select all that apply

Matching terms to definitions

Fill-In-The-Blank (watch your spelling)

True/False

One SQL Code-Runner

RULES FOR THE EXAM



This exam is open notes, lab (manuals and your work) and homework resources



Internet is out of bounds except for taking the quiz



You can carry your own notes either on paper or on the computer



NO collaboration during the exam will be accepted.



Failure to obey the rules stated above will earn you a 0 on the quiz and a trip to the office of Honor code.

EXAM TOPICS

 Linux, Regex, Shell Scripting

 Project Management Methodologies

 Requirements and Full Stack development

 Version Control and Git

 HTML/CSS

 Client Side Javascript

 Database Principles and SQL

 Testing

LINUX SHELL

What is the Linux shell?

Navigating the shell – using directories, files

- `pwd`, `mkdir`, `cd`, `ls`, `cp`, `rm`, `mv`, `rmdir`

Processing files

- `cat`, `more`, `head`, `tail`, `wc`, `grep`, `diff`, `sort`, `find`

Editing files

- `vim` (or `emacs`...)

Running programs

- redirecting output, pipes, `ps`

History of commands typed

SHELL SCRIPTING, REGEX

Shell Scripting

- `#!` – shebang
- Chmod
- Variables, comments

Regular Expressions

- `. [a-zA-Z]* ? + ^ $ \[^] \< \> x\{m\}`

VERSION CONTROL, GIT

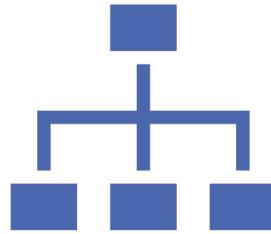
Version Control

- Why do we need DVCS?
- Remote versus local repo

Git

- Init, status, diff
- Working copy, staged file, add, commit
- Checkout, head, merge

PROJECT MANAGEMENT



Project Management Principles

What makes a project a project?

What makes a project successful?

Triple constraint model

Managing scope



Project Management Methodologies

Waterfall – its benefits

Agile, Scrum – its benefits

The agile manifesto – key principles

Daily Scrums: 15 minutes, 3 questions

PROJECT REQUIREMENT AND FULL STACK

Defining Requirements

- What is a “Use Case”
- What are “functional” requirements versus “nonfunctional” requirements

Full Stack Development

- What does it mean?
- Elements of the stack

HTML / CSS

HTML

- uses pre-defined tags
- Markup language rendered by the browser

CSS – Cascading Style Sheets

- Hierarchy of applying style
- 3 places to apply style
 - External
 - Internal in
 - Internal in specific tags
- Which of them would take precedence?

CLIENT SIDE JAVASCRIPT



WHAT IS JQUERY?



JS LANGUAGE BASICS



USING THE DOCUMENT
OBJECT MODEL

TESTING

Why Test?

Different types of testing –

- Use case, Load, Regression, Integration, Unit, User Acceptance

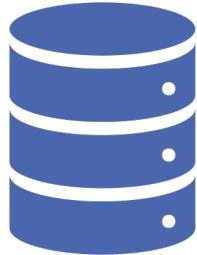
Automated Unit Testing –

- How? Why?

TDD -

- Purpose
- Benefits

DATABASES



Database Fundamentals

Tables, Rows, Columns

Primary and Foreign keys

Data model



SQL

Select statement

- Where clause conditions (like, in)
- Group functions, Group By, Having
- SubQuery, Join, Outer Join

DDL – create, alter, drop

DML – insert, update, delete