Pre Course Assignment

The purpose of this assignment is for you to assess if you have the prerequisite to enjoy and benefit from this course. If you can complete the list of task in 2 hours without difficulties, then you have the appropriate pre-requisite for this course.

Consider deferring this course if you have difficulties in completing the task until such time that you have gained the necessary prerequisite knowledge.

Please see the course's website

ISS Executive Courses - https://www.iss.nus.edu.sg/executive-education/course/detail/containers--for-deploying-and-scaling-apps/stackup---startup-tech-talent-development

The Digital Academy - https://thedigitalacademy.tech.gov.sg/course/detail/tda-containers-for-deploying-and-scaling-apps)

for a list of prerequisite.

Complete all the following tasks. The duration for the task is approximately 90 minutes.

You must work on this assignment by yourself.

Task 1

Create a public git repository eg. https://github.com/fred/myrepo. You may use any of the publically available repositories like Github, Gitlab, Bitbucket, etc.

Task 2

Clone the repository from Task 1. Create a directory call `workshop01` in the repository eg. `/home/fred/myrepo/workshop01` where `myrepo` is your cloned repository.

Task 3

In `workshop01` directory, create the following web application describe below.

Write a web application to display the following landing page. The landing page is typically the `index.html` document.
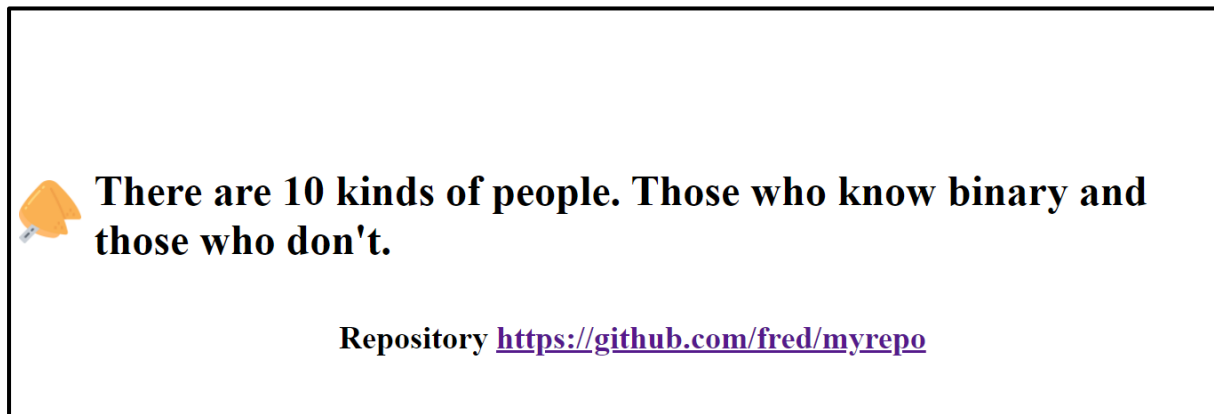
Figure 1 Landing page

The page consists of

1. An image (any image)
2. A link to your repository
3. A dynamic text that changes whenever the landing page is refreshed or reloaded. In the above image, the dynamic text is "There are 10 kinds of people...". This text should change whenever page is refreshed.

This text should be <u>randomly selected from the following list with equal probability</u>

- Logic will get you from A to B. Imagination will take you everywhere.
- There are 10 kinds of people. Those who know binary and those who don't.
- There are two ways of constructing a software design. One way is to make it so simple that there are obviously no deficiencies and the other is to make it so complicated that there are no obvious deficiencies.
- It's not that I'm so smart, it's just that I stay with problems longer.
- It is pitch dark. You are likely to be eaten by a grue.

You can format and display the above 3 items on the landing page according to your preference. The above image is only for your reference.

You may use any programming language and backend web framework to develop this web application eg. Java/SpringBoot, JavaScript/Node/Express, Python/Flask, Golang/Gin, C#/.Net Core, etc.

The web application must be a server based application and not a client-side only application like Angular, Vue, ReactJS or any of the JavaScript client framework.

You may use a JavaScript framework together with backend web framework eg. Angular with Typescript/Node/NestJS.

The easiest and fastest way accomplish this task is to use server side template engine like Thymeleaf, Express Handlebars, Jinja2, etc.

Task 4

Your application should list its dependencies in a separate file; eg. `package.json` for Node applications, `pom.xml`/`build.gradle` for Java, `requirements.txt` for Python, `go.mod` for Golang, etc.

Task 5

Add a `.gitignore` file and add the list of files and directories for git to ignore.

Commit and push your code.

Task 6

Deploy your application to the public cloud. Deployment choices include

- PaaS - Heroku, Google AppEngine, AWS Elastic Beanstalk, DigitalOcean App Platform, etc
- Virtual machine - deploy a VM and run your application in the VM

You may undeploy the application once you have received confirmation of your registration.

Task 7

When you have completed Task 6, copy the deployment URL and email it to isslcm@nus.edu.sg

The email should include your name as per your NRIC.

We will register you for the class once you have completed this pre course assignment.

Please do not hesitate to email me isslcm@nus.edu.sg if you have any queries.

Academic Integrity

This assignment must be your own work. See NUS policy on academic integrity (https://www.nus.edu.sg/celc/programmes/plagiarism.html)