Task_2

Problem 2:

- Create a dockerfile for nginx image with different html content and different nginx conf that listen to port 8080 instead of port 80 on the container
- Create container from the new image

Custom Nginx Configuration (`nginx.conf`):

This file configures Nginx to listen on port 8080 instead of 80.

```
server {
    listen 8080;
    server_name localhost;

    root /usr/share/nginx/html;
    index index.html;

    location / {
        try_files $uri $uri/ =404;
    }
}
```

Custom HTML File:

Create a folder called `html` in the same directory as the `Dockerfile` and place your HTML content inside this folder. For example, create a basic `index.html` file:

```
<!DOCTYPE html>
<html>
<head>
    <title>Custom Nginx Page</title>
</head>
<body>
    <h1>Hello, this is a custom Nginx page!</h1>
```

```
</body>
</html>
```

Dockerfile:

```
# Use the official Nginx base image
FROM nginx:latest

# Remove the default Nginx configuration
RUN rm /etc/nginx/conf.d/default.conf

# Copy custom Nginx configuration
COPY ./nginx.conf /etc/nginx/conf.d/

# Copy custom HTML content
COPY ./html /usr/share/nginx/html

# Expose port 8080
EXPOSE 8080

# Start Nginx server
CMD ["nginx", "-g", "daemon off;"]
```

- The `-g` flag in Nginx allows you to pass configuration commands directly to Nginx.
- **Foreground mode** (`daemon off`) is crucial for keeping the Docker container running, as Docker manages containers based on the state of the primary process.
- Running Nginx in the background (without `daemon off`) would cause the container to stop immediately, because Docker wouldn't detect any active process.
- This command ensures that Nginx runs as the primary, foreground process inside the container, keeping it alive and making log management easier.

Steps to Build and Run the Image to create the container from the image:

1. **Build the Docker image**:
   - Run the following command to build the Docker image:

```
docker build -t custom-nginx .
```

2. **Run the container**:
   - To run the container and map the container's port 8080 to the host's port 8080, use the following command:

```
docker run -d -p 8080:8080 custom-nginx
```

Access the HTML File:

Open your web browser and go to `http://localhost:8080`.