Part A: Product Display – Display & Search
- o Objective
  - ▪ Build out the functionality to display all products, view individual product details, and search for products on your e-commerce platform.
  - ▪ Note: This lab is about the ***customer-facing*** side of your platform. While admins and sellers manage products in the backend, this lab focuses on how products are presented and retrieved on the frontend. By now, you have already implemented categories and brands, so this lab will also extend naturally to allow filtering products by category and brand.
  - ▪ Since this task is customer-facing, you are encouraged to apply everything you have learnt in e-commerce about marketing strategies, user experience, interactivity, and richness. Consider this your chance to make the storefront engaging and persuasive, not just functional.
- o Deliverables
  - ▪ Product display, search, and filtering functionality fully implemented.
- o Tasks
  - ▪ Admin
    - • product.php
      - o No work to do here. Just ensure that unauthorised users cannot access this page.
  - ▪ Actions/Functions
    - • product_actions.php - handle all product code and search result code from here. Keep modularity in mind.
  - ▪ Classes/Models
    - • Enhance your product_class so it contains these product methods (feel free to create even more):
      - o view_all_products()
      - o search_products($query)
      - o filter_products_by_category($cat_id)
      - o filter_products_by_brand($brand_id)
      - o view_single_product($id)
  - ▪ Controllers
    - • Enhance your product_controller so it is up to date with all the new functionality in the product_class.
  - ▪ JS
    - • Use JavaScript to enhance the product search and filtering experience (for example, dynamic dropdowns for category/brand filters or async search).
  - ▪ Images
    - • Reference product images from the designated product/ folder.
  - ▪ View
    - • all_product.php:

- - - A list of all products on offer, with optional pagination if the product list is more than 10.
    - Provide dropdowns or links to filter products by category and brand.
    - For each product, display (not in any strict order):
      - Product ID (to be appended to each product URL for single product view)
      - Product Title
      - Product Price
      - Product Image
      - Product Category
      - Product Brand
      - Add to Cart button/link (placeholder for now)
  - single_product.php:
    - A full view of a single product. Display (not in strict order):
      - Product ID (used behind the scenes for add-to-cart purposes)
      - Product Category
      - Product Brand
      - Product Title
      - Product Price
      - Product Description
      - Product Image
      - Product Keyword(s)
      - Add to Cart button/link (placeholder for now)
  - product_search_result.php
    - Display a list of search results, with optional pagination if more than 10 results.
    - Provide the option to narrow search results further by category and brand.
    - For each product, display (not in strict order):
      - Product ID (to be appended to each product URL for single product view
      - Product Title
      - Product Price
      - Product Image
      - Product Category
      - Product Brand
      - Add to Cart button/link (placeholder for now)
- index.php
  - Update your menu so it includes:
    - Register

- o All Products (links to all_product.php)
- o Search Box (to search products by title/name)
- o Filters for Category and Brand
- **EXTRA CREDIT:**
  - Add functionality to search by keyword efficiently. The algorithm used should not be computationally expensive.
  - Add functionality for composite searches combining multiple filters at once, like "all Nike footwear under $100"