CS49 1.2 Portfolio Project

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# Introduction

Now that you have learned all the fundamentals of programming, it’s time to flex your creative powers and use your new skills to create a one-of-a-kind portfolio project showcasing your knowledge.

You can build a game, an informative website about a topic you enjoy, an interactive art project, or anything else you can dream of that allows you to demonstrate your understanding of the coding skills required below.

You can take inspiration from any past assignments, labs, or class examples. You can even use them as the starting point for your project as long as you are adding significant new features using new code in order to satisfy the requirements.

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# Project Requirements

We want you to have maximum flexibility for bringing to life a unique webpage so the requirements allow you to choose your own combination of **10 coding skill examples** to submit for grading.

* Your portfolio project must demonstrate coding skills in each of these 5 categories:
  + CONDITIONAL LOGIC (L)
  + DYNAMIC VISUALS (V)
  + INTERACTIVITY (I)
  + DATA STRUCTURES (D)
  + FUNCTIONAL ORGANIZATION (O)
* For each of the 5 categories, you must have at least 1 example, but no more than 3
  + you can use them more than 3 times, but we will only grade 3 of each type for credit

|  |  |  |  |
| --- | --- | --- | --- |
| **Coding Skill Category** | **Description** | **Min** | **Max** |
| CONDITIONAL LOGIC  (L) | Using conditional logic, loops, comparisons, if-statements to control functionality. | 1 | 3 |
| DYNAMIC VISUALS  (V) | Webpage or canvas elements that change as a result of some kind of variables. | 1 | 3 |
| INTERACTIVITY  (I) | Use of user input/output features or external APIs that affect the output of the webpage. | 1 | 3 |
| DATA STRUCTURES  (D) | Using objects or arrays to organize variables and properties. | 1 | 3 |
| FUNCTIONAL ORGANIZATION  (O) | Using functions or classes to organize code into meaningful functional parts. | 1 | 3 |

**Examples:** Projects A and B meet the requirements, project C does not.

|  |  |  |  |
| --- | --- | --- | --- |
| **Submitted Examples** | **Project A** | **Project B** | **Project C** |
| CONDITIONAL LOGIC (L) | 2 | 3 | 4 - too many |
| DYNAMIC VISUALS (V) | 2 | 1 | 0 - too few |
| INTERACTIVITY (I) | 2 | 1 | 1 |
| DATA STRUCTURES (D) | 2 | 3 | 3 |
| FUNCTIONAL ORGANIZATION (O) | 2 | 2 | 2 |
| **Total Graded Examples** | **10** | **10** | **9** |

# Project Grading

The Portfolio Project is worth a total of 30 points:

* 3 pts each for the 10 code skill examples
  + 1 pt - code works and the output makes sense to non-programmers
  + 1 pt - code is well formatted with good names and readable indentation
  + 1 pt - code has at least one meaningful comment about how it works

### Requirement Tracker

As you work on your project, you can copy this document and use this table to keep track of your progress towards meeting all of the requirements to get full points.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Skill** | **Category** | **Description** | **Works?** | **Readable?** | **Comment?** |
| 0 |  |  |  |  |  |
| 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  |  |
| 4 |  |  |  |  |  |
| 5 |  |  |  |  |  |
| 6 |  |  |  |  |  |
| 7 |  |  |  |  |  |
| 8 |  |  |  |  |  |
| 9 |  |  |  |  |  |
| **Overall Checks** | | | | **Yes** | **No** |
| All 5 coding skill categories have at least 1 selected example? | | | |  |  |
| No category has more than 3 selected examples? | | | |  |  |
| Is the project webpage functional and able to be used by non-programmers? (ie no features that rely on using the console to enter or see info) | | | |  |  |
| Are the comments meaningful in a way that better helps the reader understand how the code works? | | | |  |  |
| Before submitting, have you removed unused code and commented out print statements (print statements inside of loops can slow the program down significantly)? | | | |  |  |

# Project Submission

Since you are choosing which parts of your code you want to be used for each of your 10 coding skills, you’ll need to tag the code with comments so we can find them easily.

For each of your 10 Coding Skills, please wrap them in comments like this:

|  |
| --- |
| **// Skill #, CATEGORY →**  **[code here]**  **// ← Skill #** |

### Submission Tagging Examples

*Note that one of these examples would earn 2 pts and one of them would get 3 pts - can you tell which is which?*

