Carnegie Mellon University
Computer Science Academy

CS1: Introduction to Programming (CS1) Creative Tasks

Creative Tasks offer an opportunity for students to apply the coding elements they have learned thus far to a project of their own design. They may choose to create a scene, a simple game, an interactive experience, or anything else they can think of. As students advance through the CS Academy Curriculum, their Creative Tasks (CTs) should advance with them. It is a great way for students to showcase new skills they have learned at the end of each unit and is also a way for them to spark a sense of what they can now create with code.

An example of how you might introduce this to your students:

"Creative Tasks are the part of this course where you get to apply what you've learned to something YOU want to make. You will go through the design process to end up with a project that shows off your skills in a way that is meaningful and exciting to you. You can portray something from nature, design a fun game, or design an interactive project."

Inspiration from past creative task challenges:

Previous Creative Task Winners Slides and Videos

https://docs.google.com/document/d/1yrc_iyuw2DDAFezj3lFumf1My4PppXUVmSCCHbSqb2E/edit?usp=sharing

Unit	Introduced Concept
1	Creating drawings, shapes, colors, opacity
2	Functions, onMousePress and onMouseRelease, and shape properties
3	onMouseMove and onMouseDrag, conditionals, helper functions
4	elif statements, onKeyPress and onKeyRelease, shape methods
5	Compound and nested conditionals, onKeyHold
6	Groups, onStep, motion
7	New Shapes, Local Variables, and For Loops
8	Math Functions, Random Values, and Nested Loops
9	Types, Strings, and While Loops
10	Lists, group.hitTest(), writing functions that return values
11	2D Lists, Games
12	Final Project *No CTs for this unit* (Images, sounds)

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Name: _____Date:_____

Creative Task Sample Rubric

Criteria 100%	**Strong Evidence**	**Inconsistent Evidence**	**Weak or no Evidence**	**Score**
	30 points	**20 points**	**10 points**	
Program Design **30%**	Student's design of the program clearly demonstrates its purpose and incorporates concepts from the unit. **.3 X 30 = 9 pts**	Student's design of the program does not demonstrate its purpose OR does not incorporate concepts from the unit. **.3 X 20 = 6 pts**	Student's design of the program does not use concepts from the unit. **.3 X 10 = 3 pts**	
Program Development **35%**	Student identifies at least one opportunity or difficulty during the course of coding **AND** Student explains how they incorporated or resolved this. **.35 X 30 = 10.5 pts**	Student identifies at least one opportunity or difficulty during the course of coding but does not explain the resolution. **.35 X 20 = 7 pts**	Student does not identify an opportunity or difficulty. **.35 X 10 = 3.5 pts**	
Reflection **35%**	Student is able to identify and explain at least two coding concepts from the unit and how they are applied in their program. **.35 X 30 = 10.5 pts**	Student is able to identify at least one coding concept from the unit and how it is applied in their program. **.35 X 20 = 7 pts**	Student is not able to identify any coding concepts from the unit their program. **.35 X 10 = 3.5 pts**	
Bonus	If the student demonstrates high quality work in the areas including but not limited to: originality, cleverness, complexity and an engaging or compelling CT bonus points may be awarded.			
Total Score				____/30

Additional Comments:

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Design and Development Guide

Before beginning this project, be sure to review the rubric to ensure you include all the required elements.

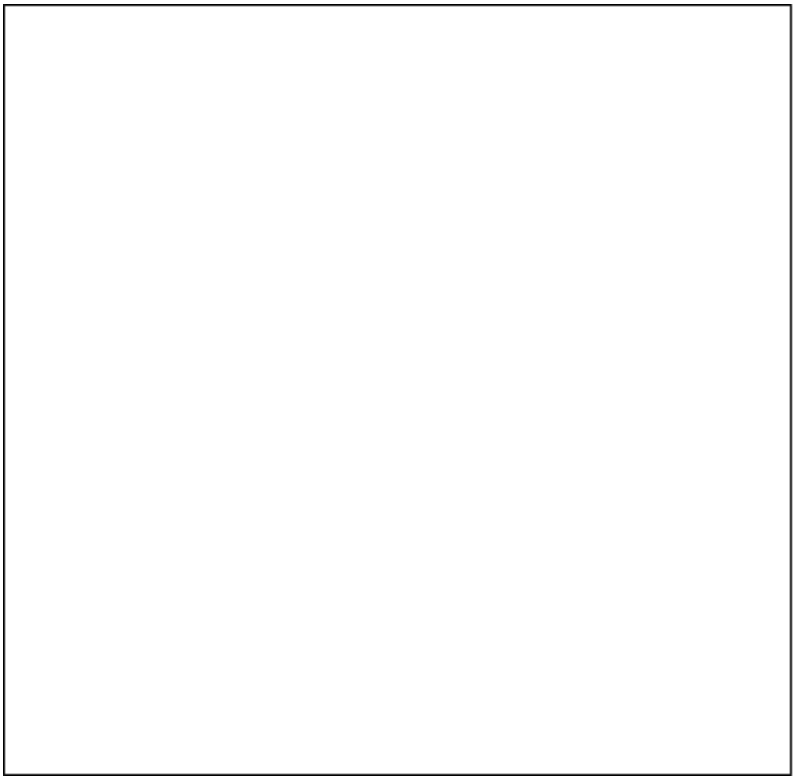
Description

Describe your program. What do you envision your app will do?
Note: At this step do not be concerned about how to do it.

Canvas Design

Sketch your canvas. Label any animation or user interaction.

(0,0)



(400,400)

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Code Design

Plan your code. List here the coding concepts you plan to use to accomplish your goals and why you plan to use them. These should incorporate at least two new concepts from this unit. Briefly describe what purpose each element will serve in your project.

Concept	Purpose

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Creative Task Reflection

After completing your creative task use this form to reflect on your work.

Difficulties and Opportunities

Briefly describe one difficulty you faced or one opportunity you had to add a new feature to your code. How did your initial design change in the face of this?

Finished Project Code Outline

List here all the important coding elements in your project and describe how they contribute to the overall function of your program. Highlighting which aspect you are most proud of.

Concept	Line number(s)	Purpose

Future goals

Describe what you would do differently if you were to write this again or what you would add if given more time.
