

AP Computer Science Principles – Summer Assignment (CMU CS Academy Unit 1)

Instructor: Mr. Franklin **Due Date:** 8/16/26

Objective

This assignment will introduce students to **graphics-based programming** using Python. Students will learn how to create and manipulate shapes, use coordinate systems, and apply fundamental programming concepts to design interactive visuals.

CMU Account Creation

1. Go to <https://academy.cs.cmu.edu/new-student/NM12-BC49>
2. Create your username with: LAST NAME and FIRST INITIAL (example: FranklinC)
3. Email cfranklin@behs.com and let me know when your account has been created.

Assignment Tasks

Students must complete the following components within **CMU CS Academy – Unit 1**:

1. **CMU Graphics Basics**
 - Complete lessons on **Intro to CMU Graphics** (pacing below)
 - You only need to score the required number of “stars” on each section
 - Experiment with colors, transparency, and positioning.
2. **Interactive Graphics Project**
 - Design a **Create Task program** using CMU Graphics.
 - Example: A simple animation, a digital drawing tool, or a basic game.
3. **Reflection & Debugging**
 - Write a short reflection on challenges faced while coding.
 - Identify and fix at least **two bugs** in your program.

Submission Guidelines

- Submit your work via TEAMS or CMU Academy where applicable.
- Include screenshots or video demos of your graphics-based project.
- Ensure proper formatting and comments in your code.

Grading Criteria

Your assignment will be graded based on the following:

- **Technical Accuracy & Problem-Solving (30%)**
- **Creativity & Innovation (30%)**
- **Depth of Analysis (20%)**
- **Clarity & Presentation (20%)**

Pacing Guide

The pacing guide is designed to give a significant amount of time to complete tasks in CMU. A “day” refers to roughly 15-30 min of classroom activity.

(Unit 1) Intro to CMU Graphics		14 Days
Week 1		
Drawing Basics	• Getting Started — 1 day • Position and Size — 2 days • Fills and Borders — 2 days	
Week 2		
More About Drawing	• Colors and Gradients — 1 day • Ovals, Circles, and Stars — 2 days • Lines, Polygons, and Labels — 1 day	
Week 3		
Unit 1 Exercises	• Practice Exercises — 2 Days	
Create Task Design	• Intro & Creativity and Planning — 1 day • Practice Create Task — 2 days	

**** I will be available all summer for any questions. TEAMS chat or email are both acceptable****

****If you created an account in another programming course, you will need to create a brand new account and add a number at the end of your username****