

Create Performance Task and Reflection Brief

Create a Shape Bot that draws a polygon based on the number of sides given as input from the user. The input could be buttons that user clicks on or an input that is entered using the keyboard. Once the shape is created the program asks the user what is name of the shape drawn. The program provides feedback for the user input. (If correct, the program plays a happy sound or if incorrect, a sad sound.)

Possible modifications:

- The number of sides must be at least 3. If not, then user should be re-prompted for valid number of sides.
- The guessing piece could have multiple attempts included. (e.g. 3 or more.)
- Students could earn a score for their game.
- The program could ask the angles between the sides of the shape as part of the guessing piece.

Below are the various programming constructs that should be used in the programs.

- Variables
- Arithmetic Operations
- Repeat Statements (loops)
- Conditionals (if ... else)
- Functions

You will work with a partner for the program development but the written response must be individual work.

Students are required to turn in the following work to be graded:

- **Program**
 - a. Make a PDF of the program code. (You must comment your code)
 - b. Video of the program running (Video should not exceed a minute) Use Screen-Cast-O Matic (<https://screencast-o-matic.com/>) for recording the program running. Make sure that you practice your audio so that you can explain code in 60 second time limit!
***Tip- The script for your video should closely match the written response for 2a !
- **Written reflection**

Write a response to parts 2a -e of the performance task. Copy, paste and mark the sections of the code (oval for algorithm, rectangle for abstraction) as given in the instructions in the performance task directions.

<https://secure-media.collegeboard.org/digitalServices/pdf/ap/ap-computer-science-principles-course-and-exam-description.pdf> (scroll down to page 111-113)

Follow the rubric provided by CollegeBoard.com to guide you to create a program and written response that gives you the maximum possible score.

<https://secure-media.collegeboard.org/digitalServices/pdf/ap/create-sample-tasks-sg.pdf>