



PROGRAM: CARTOON FACE CREATOR

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PART	ATTRIBUTE	0	1	2
HEAD	SHAPE (OVAL)	LONG (175x200)	ROUND (175x175)	WIDE (200x175)
	SIZE (SCALE)	SMALL (0.75)	MEDIUM (1.0)	LARGE (1.25)
	COLOUR (RGB)	PALE (255,209,171)	TAN (179,114,61)	DARK (82,37,0)
EYE	SHAPE (OVAL)	DOTS (25x25)	POINTY (10x35)	ROUND (35x35)
	SIZE (SCALE)	SMALL (0.75)	MEDIUM (1.0)	LARGE (1.25)
	COLOUR (RGB)	BROWN (32,10,0)	BLUE (161,202,241)	GREEN (132,203,118)
BROWS	SHAPE	ANGRY	ARCHED	SAD
	SIZE (SCALE)	THIN (0.75)	MEDIUM (1.0)	THICK (1.25)
	COLOUR (RGB)	BLACK (0,0,0)		
MOUTH	SHAPE	SMILEY	POKER	FROWN
	SIZE (SCALE)	SMALL (0.75)	MEDIUM (1.0)	LARGE (1.25)
	COLOUR (RGB)	BLACK (0,0,0)		

Outline (number does not represent “slide” number in storyboard):

1. Program will ask user to input whether user wants cartoon in 2D or 3D. $\approx <1$ hour for coding

3D option will not be implemented in prototype

use input functions

2. Starting from the shape of the head, the program will implement a function that will be used throughout the program that will prompt user to choose between options 0 – 2, where user will input an integer between 0 – 2 for each attribute within each part. $\approx 1 - 2$ hours for coding

use format function to type in part and attribute into input prompt so as to avoid hard coding input prompts

if user inputs other numbers or letters, program will ask user to retype option as well as printing a message stating that it does not understand the command

option 0 – 2 is used, not 1 – 3, so it will be easier to extract the attribute from a list (explained in step 3) using index function

option 0 – 2 can be user friendly as option 1 is generally the “default” or most common

shape will be a shape drawn using the graphics function with varying widths and heights

size will scale the shape up/down using a scaling factor of a float 1.0 (± 0.125)

size for brows would scale the width of the line up/down

colour will alter the fill colour that will be set using specific RGB codes
user will not be asked to choose an option for the fill colour for the brows or the mouth as this will be set to a default black

3. After typing an input, the function will print the part (along with whatever parts that have already been chosen if the user is further into the program) with regard to the chosen option in a new window. A table of the options is given above, and this will be put into the code as a list from a csv file. The csv file will contain functions that will draw the shape according to the options (i.e. "Long" will be replaced with a function that draws an oval, etc.). *≈ 4 – 5 hours for coding*

import from graphics library
new window may be approximately 250x250
head will have a default white fill
eyes would need to be split into eye1 and eye2, or left_eye and right_eye
dot and pointy eyes may have a default black/brown fill when first choosing the shape
round eyes would have a round circle with a white fill with another circle (similar to "dot" option) within with a default black/brown fill when first choosing the shape
brows and mouth would be curved/straight lines
brows and mouth may or may not be implemented in prototype

4. Next, the function will confirm with user if that is the attribute that the user wants (user to input a single "Yes" or "No" string). If "No", program will prompt the user to choose an option again. If "Yes", the function ends, and the program will continue on to the next function which will prompt the use to choose the next attribute of the (next) part of the face. *≈ 1 – 2 hours for coding*

use if function and while loop that will break if the user inputs "Yes"
casing does not matter through use of key function
if user inputs other strings or numbers, program will ask user to retype confirmation along with a message stating that it does not understand that command

5. After confirming the last attribute of the last part, the program will print out the end product of the program before asking if the user wants to restart the program. If "Yes", the program will start from the shape of the head again. If "No", the program is finished. *≈ <1 hour for coding*

while loop that break if user inputs "Yes"
last part that is implemented in prototype would most likely be the eyes
final product in prototype may just print the face without the brows and with a small line for a mouth