Module 3 Milestone 1

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Milestone 1

The following input/output activity is from module 3. The best practices used when creating this pseudocode and code were simple is better than complex and beautiful is better than ugly.

In terms of simple is better than complex, when creating the code, the most simple and basic code abbreviations, code, and equations were used. This was done so that even the newest of programmers could understand the functionality of each part of the code. The pseudo code explains exactly what the actual code would need to understand, keeping it simple.

When writing the code with beautiful is better than ugly in mind, the code was kept short, with an indent every 4 lines, in order to keep the code easy to read, understand, and work through. Beauty can be a systematic process, which the code directly reflects, as the code and pseudo code are written so that it looks as if it’s a step by step process. The first four lines prompt the user for their input, while the second four lines process the information provided, and the last four lines finalize the process, outputting the desired values requested. The code is appealing to the eyes and easy to read, hence why beauty is better than ugly.

This activity was solved with the help of pseudo code, which was used to blue print how the code would turn out. The pseudo code is almost a direct reflection of the program, as the first part prompts the user to figure out what the inputs are. The second part then processes the inputs, with the third part finalizing and outputting the requested values. These steps are annotated in the code.

Pseudocode

function DetermineWallSize():

GET measuring tape

MEASURE wall height

MEASURE wall width

GET calculator

CALCULATE height x width to determine area of wall

WALL size is 100 sq. ft.

function DeterminePaintNeeded():

GET paint

READ paint label to determine how much square feet  
 one gallon of paint cancover

EACH gallon of paint covers 10 sq. ft.

function PrintInformation():

CALCULATE how many gallons of paint you need for a 100 sq. ft. wall

10 GALONS of paint will paint a 100 sq. ft. wall

PURCHASE paint

PAINT wall

Program Code

import math

# Dictionary of paint colors and cost per gallon

paintColors = {

'red': 35,

'blue': 75,

'green': 23

}

# prompt user for height and width of wall, then determine area

wall\_height = float(input('Enter wall height (feet): \n')) #

wall\_width = float(input('Enter wall width (feet): \n'))

wall\_area = wall\_height \* wall\_width

print('Wall area:', wall\_area, 'square feet')

# determine amount of paint per gallon needed, utilizing user input

gal\_paint = 350

paint = wall\_area / gal\_paint

print('Paint needed:', paint, 'gallons')

cans = math.ceil(paint)

# calculate amount of cans per paint by color

print('Cans needed:', cans, 'can(s)')

color = input() #used to get info from dictionary

print('\nChoose a color to paint the wall: ')

print('Cost of purchasing', color, 'paint: $%d' % paintColors[color])