/\*

\* ips11P1.pdf

\*

\* COSC 051-02 Spring 2021

\* Project #1

\*

\* Due on: <put due date here>

\* Author: <your name>

\*

\*

\* In accordance with the class policies and Georgetown's

\* Honor Code, I certify that, with the exception of the

\* class resources and those items noted below, I have neither

\* given nor received any assistance on this project.

\*

\* References not otherwise commented within the program source code.

\* Note that you should not mention any help from the TAs, the professor,

\* or any code taken from the class textbooks.

\*/

**START**

**CONSTANTS:**

LOWER\_LIMIT (5.0),

UPPER\_LIMIT (25.0),

MIN\_PERCENT (58),

MAX\_PERCENT (80)

AREA\_MULTIPLIER (1.26),

MARBLE\_RATE (92.99),

GRANITE\_RATE (78.99),

QUARTZ\_RATE (56.99),

EDGE\_RATE (4.99)

**OUTPUT** Thank you for shopping with Claude’s Custom Counters!

**OUTPUT** Let’s calculate the cost of your new counter!

**OUTPUT** Choose a material (M – Marble, G – Granite, Q – Quartz):

**INPUT** stone\_code, remove all but first letter

**DEFINE** stone\_rate

**DEFINE** stone\_name

**IF** stone\_code is ‘M’ or ‘m’, **THEN**

**BEGIN**

assign MARBLE\_RATE to stone\_rate

assign “Marble” to stone\_name

**END**

**OTHERWISE, IF** stone\_code is ‘G’ or ‘g’, **THEN**

**BEGIN**

assign GRANITE\_RATE to stone\_rate

assign “Granite” to stone\_name

**END**

**OTHERWISE, IF** stone\_code is ‘Q’ or ‘q’, **THEN**

**BEGIN**

assign QUARTZ\_RATE to stone\_rate

assign “Quartz” to stone\_name

**END**

**OTHERWISE, OUTPUT** Sorry, invalid choice. Goodbye…

**OUTPUT** Enter the length of the counter ((lower\_limit)’ – (upper\_limit)’):

**INPUT** length

**IF** length is not within (lower\_limit) and (upper\_limit) inclusive, **THEN,**

**BEGIN**

**OUTPUT** Invalid Length, value must be between (lower\_limit) and (upper\_limit)

**OUTPUT** Goodbye…

**END**

**OUTPUT** Enter the depth of the counter ((lower\_limit)’ – (upper\_limit)’):

**INPUT** depth

**IF** depth is not within (lower\_limit) and (upper\_limit) inclusive, **THEN**

**BEGIN**

**OUTPUT** Invalid depth: must be between (lower\_limit)’ and (upper\_limit)’

**OUTPUT** Goodbye…

**END**

**OTHERWISE, IF** depth greater than length, **THEN**

**BEGIN**

**OUTPUT** Invalid depth: counter depth must be lower than the length

**OUTPUT** Goodbye…

**END**

**OUTPUT** Enter the height of the counter ((lower\_limit)’ – (upper\_limit)’):

**INPUT** height

**IF** height not within (depth \* min\_percent / 100) - (depth \* max\_percent / 100) inclusive, **THEN**

**BEGIN**

**OUTPUT** Invalid height:

**OUTPUT** must be between (min\_percent)% and (max\_percent)% of the depth

**OUTPUT** Goodbye…

**END**

**CALCULATE** area = AREA\_MULTIPLIER \* length \* height

**OUTPUT** Enter quantity of length edges to be polished (0-2)

**INPUT** num\_length\_edges

**IF** num\_length\_edges not 0, 1 or 2, **THEN**

**BEGIN**

**OUTPUT** Invalid number of length edges:

**OUTPUT** must be 0, 1 or 2

**OUTPUT** Goodbye…

**END**

**OUTPUT** Enter quantity of depth edges to be polished (0-2)

**INPUT** num\_depth\_edges

**IF** num\_depth\_edges not 0, 1 or 2, **THEN**

**BEGIN**

**OUTPUT** Invalid number of length edges:

**OUTPUT** must be 0, 1 or 2

**OUTPUT** Goodbye…

**END**

**OUTPUT** Dimensions

**OUTPUT** Length: (length) ft.

**OUTPUT** Depth: (depth) ft.

**OUTPUT** Height: (height) ft.

**OUTPUT** Total (stone\_name) Required: (area) sq. ft.

**CALCULATE** stone\_cost = stone\_rate \* area

**CALCULATE**  edge\_cost = EDGE\_RATE \* (num\_depth\_edges + num\_length\_edges)

**CALCULATE** total\_cost = stone\_cost + edge\_cost

**OUTPUT** Costs

**OUTPUT** (stone\_name) Cost: $(stone\_cost)

**OUTPUT** Edge Finishing Cost: $(edge\_cost)

**OUTPUT** Total Cost: $(total\_cost)

**OUTPUT** Thank you for your patronage with Claude’s Custom Counters, Inc.