```
/*
 * 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**

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        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.
```