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#include <stdio.h>

#include <math.h>

//function prototypes

float calculateVolume(float l, float w, float h);

void printMass(float v);

int barrels(float v);

void main()

{

//declare variables

float length = 0.0, width = 0.0, height = 0.0;

float volume = 0.0;

puts("Pool volume calculator");

//get length, width, height as input from user

puts("Please enter information about your pool.");

printf("Enter length: ");

scanf\_s("%f", &length);

printf("Enter width: ");

scanf\_s("%f", &width);

printf("Enter height: ");

scanf\_s("%f", &height);

printf("\n");

volume = calculateVolume(length, width, height); //calculate volume

printf("Volume = %0.2f meters cubed.\n", volume); //print volume

printMass(volume);

printf("\nBarrels = %d", barrels(volume));

}

float calculateVolume(float l, float w, float h) //function to calculate volume given length, width and height variables

{

return (l \* w \* h);

}

void printMass(float v) //function that prints mass of water given the volume

{

float mass = v \* 1000; //calculate mass of water

printf("The mass of the water is %0.2f kg.", mass); //print mass of water

}

int barrels(float v) //function to calculate barrels to fill pool given the volume and each barrel is 0.48 m3

{

int amount = 0;

amount = round(v / 0.48);

return amount;

}

