***Programming assignment 7***

#include <stdio.h>

#include "string.h"

void main()

{

// initialize variables

char choice[50] = "a";

float height; // dimensions of the shapes must be initialised

float width;

float baseWidth;

float radius;

const float PI = 3.14; // PI is a constant

float area1;

float area2;

float area3;

float area4;

int done = 0;

while (done != 1) // use a while loop to allow multiple choices

{

puts("Are Calculator - Shape Choices are: "); // these texts must be inputed after each choice is finished

puts("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ");

puts("Triangle, Rectangle, Circle, Trapezium. 'Done' to end ");

puts("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ");

puts("Choice: "); // used instead of printf. also prints on a new line

gets(choice); // used instead of scanf\_s for strings

if(strcmp(choice, "triangle") == 0) { //strcmp compares the strings

printf("Enter the height: ");

scanf\_s("%f", &height); // scans the users input for heigth and uses it for the area

printf("Enter the base width: ");

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

area1 = (baseWidth / 2) \* height; // we define the area to create the formuala

printf("Area of the triangle = %0.2f \n", area1);

}

else if(strcmp(choice, "rectangle") == 0) { // if the user types rectangle the process for its area is executed

printf("Enter the height: ");

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

printf("Enter the width: ");

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

area2 = height \* width;

printf("Area of the rectangle = %0.2f \n", area2);

}

else if (strcmp(choice, "circle") == 0) {

printf("Enter the radius: ");

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

area3 = PI \* radius \* radius;

printf("Area of the Cirlce = %0.2f \n", area3);

}

else if (strcmp(choice, "trapezium") == 0) {

printf("Enter the height: ");

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

printf("Enter the width: ");

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

printf("Enter the base width: ");

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

area4 = ((width + baseWidth) / 2) \* height;

printf("Area of the Trapezium = %0.2f \n", area4);

}

else if(strcmp(choice, "done") == 0) {

done++; // increment done to make it 1 therefore stops the program

}

}

}

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