#include <iostream>

using namespace std;

int main()

{

int shape;

cout << "This is an area and perimeter calculator.\n\n";

cout << "Please type in the designated number for the shape that you want to find the area/perimeter of:" << endl;

cout << "1. Square/Rectangle\n2. Triangle\n3. Circle\n" << endl;

cin >> shape;

if (shape == 1) {

int aop; //Area Or Perimeter//

cout << "Select if you want to find the area or the perimeter of the square/rectange." << endl;

cout << "1. Area\n2. Perimeter\n" << endl;

cin >> aop;

if (aop == 1) {

double width, height;

cout << "Please enter the width:\n";

cin >> width;

cout << "Please enter the height:\n";

cin >> height;

float area = width \* height;

cout << "The area is: " << area << endl;

}

else if (aop == 2){

double width, height;

cout << "Please enter the width:\n";

cin >> width;

cout << "Please enter the height:\n";

cin >> height;

float perimeter = width + width + height + height;

cout << "The perimeter is: " << perimeter << endl;

}

else{

cout << "\nYou need to enter either 1 or 2.\n\n";

cout << "Terminating Program." << endl;

}

}

else if (shape == 2) {

int aop;

cout << "Select if you want to find the area or the perimeter of the triangle." << endl;

cout << "1. Area\n2. Perimeter\n" << endl;

cin >> aop;

if (aop == 1) {

double base, height;

cout << "Please enter the base:\n";

cin >> base;

cout << "Please enter the height:\n";

cin >> height;

float area = .5 \* base \* height;

cout << "The area is: " << area << endl;

}

else if (aop == 2){

double side1, side2, side3;

cout << "Please enter the first side:\n";

cin >> side1;

cout << "Please enter the second side:\n";

cin >> side2;

cout << "Please enter the third side:\n";

cin >> side3;

float perimeter = side1 + side2 + side3;

cout << "The perimeter is: " << perimeter << endl;

}

else{

cout << "\nYou need to enter either 1 or 2.\n\n";

cout << "Terminating Program." << endl;

}

}

else if (shape == 3) {

int aop;

cout << "Select if you want to find the area or the perimeter of the circle." << endl;

cout << "1. Area\n2. Perimeter\n" << endl;

cin >> aop;

if (aop == 1) {

double radius;

double pi = 3.14159;

cout << "Please enter the radius:\n";

cin >> radius;

float area = radius \* radius \* pi;

cout << "The area is: " << area << endl;

}

else if (aop == 2){

double radius;

double pi = 3.14159;

cout << "Please enter the radius:\n";

cin >> radius;

float circumference = 2 \* pi \* radius;

cout << "The circumference is: " << circumference << endl;

}

else{

cout << "\nYou need to enter either 1 or 2.\n\n";

cout << "Terminating Program." << endl;

}

}

else {

cout << "\nYou need to enter either 1, 2, or, 3.\n\n";

cout << "Terminating Program." << endl;

}

return 0;

}