#include <iostream>

int main()

{

const double PI = 3.14159;

double num1, num2, choice, area;

do{

std::cout << "Geometry Calculate\n\n"

<< "1. Calculate the area of a Circle\n"

<< "2. Calculate the area of a Rectangle\n"

<< "3. Calculate the area of a Triangle\n"

<< "4. Quit\n";

do{

std::cout << "\nEnter your choice (1-4): ";

std::cin >> choice;

if(choice < 1 || choice > 4)

std::cout << "Please enter a number inside the range of 1 through 4.";

} while(choice < 1 || choice > 4);

if(choice == 1){

do{

std::cout << "Enter the circle's radius: ";

std::cin >> num1;

if(num1 < 0)

std::cout << "Please enter a positive number.\n";

} while(num1 < 0);

area = num1 \* num1 \* PI;

}

else if(choice == 2){

do{

std::cout << "Enter the rectangle's length: ";

std::cin >> num1;

std::cout << "Enter the rectangle's width: ";

std::cin >> num2;

if(num1 < 0 || num2 < 0)

std::cout << "Please enter a postitive number.\n";

} while(num1 < 0 || num2 < 0);

area = num1 \* num2;

}

else if(choice == 3){

do{

std::cout << "Enter the length of the base: ";

std::cin >> num1;

std::cout << "Enter the triangle's height: ";

std::cin >> num2;

if(num1 < 0 || num2 < 0)

std::cout << "Please enter a postitive number.\n";

} while(num1 < 0 || num2 < 0);

area = num1 \* num2 \* 0.5;

}

else

return 0;

std::cout << "\nThe area is " << area << "\n";

} while(choice != 4);

}

/\* Test run result

Geometry Calculate

1. Calculate the area of a Circle

2. Calculate the area of a Rectangle

3. Calculate the area of a Triangle

4. Quit

Enter your choice (1-4): 1

Enter the circle's radius: 2

The area is 12.5664

Geometry Calculate

1. Calculate the area of a Circle

2. Calculate the area of a Rectangle

3. Calculate the area of a Triangle

4. Quit

Enter your choice (1-4): 2

Enter the rectangle's length: 3

Enter the rectangle's width: 4

The area is 12

Geometry Calculate

1. Calculate the area of a Circle

2. Calculate the area of a Rectangle

3. Calculate the area of a Triangle

4. Quit

Enter your choice (1-4): 3

Enter the length of the base: 4

Enter the triangle's height: 5

The area is 10

Geometry Calculate

1. Calculate the area of a Circle

2. Calculate the area of a Rectangle

3. Calculate the area of a Triangle

4. Quit

Enter your choice (1-4): 4

...Program finished with exit code 0

Press ENTER to exit console.

\*/