3A

#include <iostream>

using namespace std;

int main ()

{

int length1, length2;

int width1, width2;

int area1, area2;

cout <<"Please enter the length of the 1st rectangle:";

cin >> length1;

cout <<"Please enter the width of the 1st rectangle:";

cin >> width1;

area1 = length1 \* width1;

cout <<"Please enter the length of the 2nd rectangle:";

cin >> length2;

cout <<"Please enter the width of the 2nd rectangle:";

cin >> width2;

area2 = length2 \* width2;

if (area1 == area2)

cout <<"Both have the same area.";

else if (area1 > area2)

cout <<"The 1st rectangle is larger.";

else

cout <<"The 2nd rectangle is larger.";

return 0;

}

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3B

#include <iostream>

#include <cstdlib>

#include <ctime>

#include <iomanip>

using namespace std;

int main()

{

const int MIN = 0;

const int MAX = 999;

unsigned seed = time(0);

srand(seed);

int n1 = MIN + rand() % MAX;

int n2 = MIN + rand() % MAX;

int result;

cout << "Please enter your result.\n";

cout << " " << n1 << endl;

cout << "+" ;

cout << n2 << endl;

cout << "-----\n";

cin >>result;

int sum = n1 + n2;

if (result == sum)

cout << "Yes! You have the right answer.\n";

else

{

cout << "Oops! Please try again.\n";

cout << sum << endl;

}

return 0;

}

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3C

#include <iostream>

#include <iomanip>

#include <cmath>

using namespace std;

int main()

{

int choice;

double r, area, length, width, base, height;

double PI = 3.14159;

cout << "Geometry Calculator" << endl;

cout << " 1. Calculate the Area of a Circle" << endl;

cout << " 2. Calculate the Area of a Rectangle" << endl;

cout << " 3. Calculate the Area of a Triangle" << endl;

cout << " 4. Quit" << endl << endl;

cout << " Enter your choice (1-4):" << endl;

cin >> choice;

if (choice>=1 && choice<=4)

{

switch(choice)

{

case 1:

cout << "Please enter the radius";

cin >> r;

if (r>0)

{

area = PI\*r\*r;

cout << "The area of the circle is "<<area<<endl;

}

else

{

cout <<"Please enter a positive number";

}

break;

case 2:

cout << "Please enter the length";

cin >> length;

cout << "Please enter the width";

cin >> width;

if (length>0 && width >0)

{

area = length\*width;

cout <<"The area of the rectangle is "<<area<<endl;

}

else

{

cout << "Please enter a positive number";

}

break;

case 3:

cout << "Please enter the base";

cin >> base;

cout << "Please enter the height";

cin >> height;

if (base>0 && height>0)

{

area = base\*height\*0.5;

cout <<"The area of the triangle is "<<area<<endl;

}

else

{

cout <<"Please enter a positive number";

}

break;

case 4:

cout <<"Goodbye!\n";

break;

}

}

else

{

cout <<"Please select a valid choice from 1-4";

}

return 0;

}

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