//**04-05** pizza call by ref, call by value

//Determines which of two pizza sizes is the best buy.

#include <iostream>

#include <conio.h>

using namespace std;

*void getData(int& smallDiameter, double& priceSmall, int& largeDiameter, double& priceLarge);*

*//those variables (formal parameters) carry data from f. getData to f. giveResuilts*

void giveResults(int smallDiameter, double priceSmall, int largeDiameter, double priceLarge);

double unitPrice(int diameter, double price);

//Returns the price per square inch of a pizza.

//Precondition: The diameter parameter is the diameter of the pizza

//in inches. The price parameter is the price of the pizza.

int main( )

{

int diameterSmall, diameterLarge;

double priceSmall, priceLarge;

getData(diameterSmall, priceSmall, diameterLarge, priceLarge); //called by reference

giveResults(diameterSmall, priceSmall, diameterLarge, priceLarge); //called by value

\_getch();

return 0;

}

void getData(int& smallDiameter, double& priceSmall,

int& largeDiameter, double& priceLarge)

{

cout << "Welcome to the Pizza Consumers Union.\n";

cout << "Enter diameter of a small pizza (in inches): ";

cin >> smallDiameter; //available in main as diameterSmall

cout << "Enter the price of a small pizza: $";

cin >> priceSmall; ; //available in main as priceSmall

cout << "Enter diameter of a large pizza (in inches): ";

cin >> largeDiameter; ; //available in main as diameterLarge

cout << "Enter the price of a large pizza: $";

cin >> priceLarge; ; //available in main as price Large

}

void giveResults(int smallDiameter, double priceSmall,

int largeDiameter, double priceLarge)

{

double unitPriceSmall, unitPriceLarge;

unitPriceSmall = unitPrice(smallDiameter, priceSmall); //output: price/area==priceSmall/area

unitPriceLarge = unitPrice(largeDiameter, priceLarge);

cout.setf(ios::fixed);

cout.setf(ios::showpoint);

cout.precision(2);

cout << "Small pizza:\n"

<< "Diameter = " << smallDiameter << " inches\n"

<< "Price = $" << priceSmall

<< " Per square inch = $" << unitPriceSmall << endl

<< "Large pizza:\n"

<< "Diameter = " << largeDiameter << " inches\n"

<< "Price = $" << priceLarge

<< " Per square inch = $" << unitPriceLarge << endl;

if (unitPriceLarge < unitPriceSmall)

cout << "The large one is the better buy.\n";

else

cout << "The small one is the better buy.\n";

cout << "Buon Appetito!\n";

}

double unitPrice(int diameter, double price)

{

const double PI = 3.14159;

double radius, area;

radius = diameter/static\_cast<double>(2);

area = PI \* radius \* radius;

return (price/area);

}