**CODE:**

#include <iostream>

#include <iomanip>

using namespace std;

double calculateTotalPrice(double price, int quantity) {

double totalPrice = price \* quantity;

double discount = 0.0;

if (quantity >= 10 && quantity < 20) {

discount = 0.1;

} else if (quantity >= 20 && quantity < 50) {

discount = 0.2;

} else if (quantity >= 50) {

discount = 0.3;

}

totalPrice -= totalPrice \* discount; return totalPrice;

}

int main() {

double price;

int quantity;

cout << "Enter the product price: $";

cin >> price;

cout << "Enter the quantity: ";

cin >> quantity;

double totalPrice = calculateTotalPrice(price, quantity);

cout << fixed << setprecision(2);

cout << "Total price after discount: $" << totalPrice << endl;

return 0;

}