#include <iostream>

#include <cmath>

class Hexagon {

private:

double sideLength;

public:

Hexagon(int cnicLastDigit) {

sideLength = cnicLastDigit;

}

double calcArea() {

return 1.5 \* 1.732 \* sideLength;

}

double calcPeri() {

return 6 \* sideLength;

}

double calcAnglesSum() {

return 6 \* 120;

}

void display() {

std::cout << "Area of Hexagon is: " << calcArea() << " cm" << std::endl;

std::cout << "Perimeter of Hexagon is: " << calcPeri() << " cm" << std::endl;

std::cout << "Sum of angles of Hexagon is: " << calcAnglesSum() << " degrees" << std::endl;

}

};

class Square {

private:

double sideLength;

public:

Square(int cnicLastDigit) {

sideLength = cnicLastDigit + 1;

}

double calcArea() {

return sideLength \* sideLength;

}

double calcPeri() {

return 4 \* sideLength;

}

void display() {

std::cout << "Area of Square is: " << calcArea() << " cm" << std::endl;

std::cout << "Perimeter of Square is: " << calcPeri() << " cm" << std::endl;

}

};

int main() {

std::string studentID;

std::cout << "Enter your student ID: ";

std::cin >> studentID;

int cnicLastDigit = studentID.back() - '0';

int choice;

while (true) {

std::cout << "Enter 1 to calculate area, perimeter, and sum of angles of hexagon." << std::endl;

std::cout << "Enter 2 to calculate area and perimeter of square." << std::endl;

std::cout << "Press any other key to exit." << std::endl;

std::cin >> choice;

switch (choice) {

case 1: {

Hexagon hex(cnicLastDigit);

hex.display();

break;

}

case 2: {

Square sq(cnicLastDigit);

sq.display();

break;

}

default:

std::cout << "Exiting the program." << std::endl;

return 0;

}

}

return 0;

}