**WEEK 4:**

**Consider last digit of your CNIC as the length of one side of hexagon. For example, if your CNIC is XY210351532, the last digit will be 2. Calculate area and perimeter of hexagon. (Hint: Area of hexagon= 1.5\*1.732\*s; where ‘s’ is the length of one side of hexagon. Perimeter of hexagon= 6\*s; where ‘s’ is the length of one side of hexagon) Calculate sum of all the angles of hexagon. (Hint: Sum of all the angles of hexagon= 6\*a; where ‘a’ is the measurement of one angle of hexagon which is equal to 120.) When the input of user is ‘1’, display area, perimeter and sum of all the angles of hexagon.**

**Calculate area and perimeter of square whereas; Length of one side of square=last digit of CNIC + 1. (Hint: Area of square= (length)2; where ‘length’ is the length of one side of square. Perimeter of square= 4\*length; where ‘length’ is the length of one side of the square.)**

**When the input of user is ‘2’, display the area and perimeter of the square.**

**On any other input, the program should exit.**

**Code:**

// week4.cpp: Defines the entry point for the console application.

//

#include <iostream>

#include <cmath>

using namespace std;

class Hexagon {

private:

double side\_length;

public:

Hexagon(double length) : side\_length(length) {}

double calcArea() {

return 1.5 \* 1.732 \* side\_length \* side\_length;

}

double calcPeri() {

return 6 \* side\_length;

}

double calcAngleSum() {

return 6 \* 120;

}

void display() {

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

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

cout << "Sum of Hexagon Angles: " << calcAngleSum() << std::endl;

}

};

class Square {

private:

double side\_length;

public:

Square(double length) : side\_length(length) {}

double calcAreaSquare() {

return side\_length \* side\_length;

}

double calcPeriSquare() {

return 4 \* side\_length;

}

void display() {

cout << "Square Area: " << calcAreaSquare() << std::endl;

cout << "Square Perimeter: " << calcPeriSquare() << std::endl;

}

};

int main() {

// Replace 'YOUR\_LAST\_DIGIT' with the actual last digit of your CNIC

const int hexagonSideLength = 0;

const int squareSideLength = hexagonSideLength + 1;

Hexagon hexagon(hexagonSideLength);

Square square(squareSideLength);

while (true) {

cout << "Enter 1 to calculate area, perameter and sum of angles of hexagon\n";

cout << "Enter 2 to calculate area and parameter of saquare\n";

cout << "Press any other key to exit\n";

cout << "Enter your choice: ";

char choice;

cin >> choice;

if (choice == '1') {

hexagon.display();

} else if (choice == '2') {

square.display();

} else {

cout << "Exiting program.\n";

break;

}

}

system("pause");

return 0;

}

**Output:**

