**10b) write a c++ program to explain virtual function by creating a base class c_polygon which has virtual function area().2 class c_retangle and c_triangle derived from c_polygon and they have area to calculate and return the area of rectangle and triangle respectively.**

```
#include <iostream>

class c_polygon {
public:
    virtual float area() const {
        return 0.0; // Base class provides a default implementation
    }
};

class c_rectangle : public c_polygon {
private:
    float length;
    float width;

public:
    c_rectangle(float l, float w) : length(l), width(w) {}

    // Override the base class virtual function
    float area() const override {
        return length * width;
    }
};

class c_triangle : public c_polygon {
private:
    float base;
    float height;

public:
    c_triangle(float b, float h) : base(b), height(h) {}

    // Override the base class virtual function
    float area() const override {
        return 0.5 * base * height;
    }
};

int main() {
    c_polygon* poly;
```

```
    // Create a rectangle object
    c_rectangle rectangle(5.0, 3.0);
    poly = &rectangle;
    std::cout << "Area of Rectangle: " << poly->area() << std::endl;

    // Create a triangle object
    c_triangle triangle(4.0, 6.0);
    poly = &triangle;
    std::cout << "Area of Triangle: " << poly->area() << std::endl;

    return 0;
}
```