Q9..The class Cylinder inherits a superclass Circle. It further defines a variable

called height, a method computeVolume() and its own constructors.

Implement the hierarchy as shown below:

Circle

radius:double

Circle()

Circle(radius:double)

computeArea():double

Cylinder

height:double

Cylinder()

Cylinder(height:double)

Cylinder(height:double, radius:double)

computeVolume():double

SOURCE CODE

class Circle {

protected:

float radius, area;

public:

Circle() { radius = 0.0;}

Circle(float radius) {

this->radius = radius;}

void computArea() {

area = 3.142 \* radius \* radius;

cout << "Area of the circle is " << area << endl;}};

class Cylinder : public Circle {

private:

float height, volume;

public:

Cylinder() {

radius = 0.0; height = 0.0; }

Cylinder(float height) {

radius = 0.0;

this->height = height;

}

Cylinder(float radius, float height) : Circle(radius) {

this->height = height;

}

void computeArea() {

area = 2 \* 3.142 \* radius \* height + 2 \* 3.142 \* radius \* radius;

cout << "Area of cylinder is " << area << endl;

}

void computeVolume() {

volume = 3.142 \* radius \* radius \* height;

cout << "Volume of cylinder is " << volume << endl;

}};

int main() {

Circle cir(4.5);

cir.computArea();

Cylinder cyl(4.5, 3.4);

cyl.computeArea();

cyl.computeVolume();

return 0;}

OUTPUT:

**Area of the circle is 63.6255**

**Area of cylinder is 223.396**

**Volume of cylinder is 216.327**