```
#include <SFML/Graphics.hpp>
#include <time.h>
#include "MyVector2D.h"
#include "Ball.h"

int main()
{
    sf::ContextSettings settings;
    settings.antialiasingLevel = 8;

    sf::RenderWindow window(sf::VideoMode(800, 600), "SFML works!", sf::Style::Default,
settings);
/**************Start Edit Section*****************/
    srand(time(NULL));
    sf::Vector2u window_size2 = window.getSize();

    class Ball balls[10];

    for(int i =0;i<10;i++)
    {
        balls[i].vel.x = rand()%10-5;
        balls[i].vel.y = rand()%10-5;
        balls[i].acc.x = 0;
        balls[i].acc.y = 0.4;

        balls[i].circle.setPosition(rand()%window_size2.x,rand()%window_size2.y);
        balls[i].circle.setRadius(rand()%100);
        sf::Color color;
        color.r = rand()%255;
        color.g = rand()%255;
        color.b = rand()%255;
        balls[i].circle.setFillColor(color);

    }
/**************End Edit Section******************/
    while (window.isOpen())
    {


        sf::Event event;
        while (window.pollEvent(event))
        {
            if (event.type == sf::Event::Closed)
                window.close();
        }

        window.clear();
/**************Start Edit Section*****************/
        sf::Vector2u window_size = window.getSize();
        for(int i = 0;i<10;i++)
        {
            balls[i].move(window_size.x,window_size.y);
        }

        for(int i = 0;i<10;i++)
        {
            balls[i].draw(&window);
        }

/**************End Edit Section******************/

        window.display();
    }

    return 0;
}
```

```h
#ifndef BALL_H
#define BALL_H
#include <SFML/Graphics.hpp>
#include "MyVector2D.h"
class Ball
{
    public:
        sf::CircleShape circle;
        MyVector2D vel;
        MyVector2D acc;

        void draw(sf::RenderWindow* window);
        void move(int window_width,int window_height);
};

#endif // BALL_H
```

```cpp
#include "Ball.h"

void Ball::draw(sf::RenderWindow* window)
{
    window->draw(circle);
}

void Ball::move(int window_width,int window_height)
{
    sf::Vector2f p = circle.getPosition();
    class MyVector2D pos(p.x,p.y);
    vel = vel.add(acc); //OR Can use  vel = vel + acc;
            pos = pos + vel;

            if(pos.x + 2*circle.getRadius()>window_width)
            {
                pos.x = window_width -  2*circle.getRadius();
                vel.x = -1*vel.x;
            }
            if(pos.y+ 2*circle.getRadius()>window_height)
            {
                pos.y = window_height-  2*circle.getRadius();
                vel.y = -1*vel.y;
            }
            if(pos.x<0)
            {
                pos.x = 0;
                vel.x = -1*vel.x;
            }
            if(pos.y<0)
            {
                pos.y = 0;
                vel.y = -1*vel.y;
            }
            sf::Vector2f pos_now(pos.x,pos.y);
            circle.setPosition(pos_now);
}
```

```
#include <SFML/Graphics.hpp>
#include <time.h>
#include "MyVector2D.h"
#include "Ball.h"

int main()
{
    sf::ContextSettings settings;
    settings.antialiasingLevel = 8;

    sf::RenderWindow window(sf::VideoMode(800, 600), "SFML works!", sf::Style::Default,
settings);
/**************Start Edit Section*****************/
    srand(time(NULL));
    sf::Vector2u window_size2 = window.getSize();

    class Ball balls[10];

    for(int i =0;i<10;i++)
    {
        balls[i].vel.x = rand()%10-5;
        balls[i].vel.y = rand()%10-5;
        balls[i].acc.x = 0;
        balls[i].acc.y = 0.4;

        balls[i].circle.setPosition(rand()%window_size2.x,rand()%window_size2.y);
        balls[i].circle.setRadius(rand()%100);
        sf::Color color;
        color.r = rand()%255;
        color.g = rand()%255;
        color.b = rand()%255;
        balls[i].circle.setFillColor(color);

    }
/**************End Edit Section******************/
    while (window.isOpen())
    {


        sf::Event event;
        while (window.pollEvent(event))
        {
            if (event.type == sf::Event::Closed)
                window.close();
        }

        window.clear();
/**************Start Edit Section*****************/
        sf::Vector2u window_size = window.getSize();
        for(int i = 0;i<10;i++)
        {
            balls[i].move(window_size.x,window_size.y);
        }

        for(int i = 0;i<10;i++)
        {
            balls[i].draw(window);
        }

/**************End Edit Section******************/

        window.display();
    }

    return 0;
}
```

```
#ifndef BALL_H
#define BALL_H
#include <SFML/Graphics.hpp>
#include "MyVector2D.h"
class Ball
{
    public:
        sf::CircleShape circle;
        MyVector2D vel;
        MyVector2D acc;

        void draw(sf::RenderWindow& window);
        void move(int window_width,int window_height);
};

#endif // BALL_H
```

```
#include "Ball.h"

void Ball::draw(sf::RenderWindow& window)
{
    Window.draw(circle);
}

void Ball::move(int window_width,int window_height)
{
    sf::Vector2f p = circle.getPosition();
    class MyVector2D pos(p.x,p.y);
    vel = vel.add(acc); //OR Can use  vel = vel + acc;
            pos = pos + vel;

            if(pos.x + 2*circle.getRadius()>window_width)
            {
                pos.x = window_width -  2*circle.getRadius();
                vel.x = -1*vel.x;
            }
            if(pos.y+ 2*circle.getRadius()>window_height)
            {
                pos.y = window_height-  2*circle.getRadius();
                vel.y = -1*vel.y;
            }
            if(pos.x<0)
            {
                pos.x = 0;
                vel.x = -1*vel.x;
            }
            if(pos.y<0)
            {
                pos.y = 0;
                vel.y = -1*vel.y;
            }
            sf::Vector2f pos now(pos.x,pos.y);
            circle.setPosition(pos_now);
}
```