

Image.cpp

```
#include "Image.h"

void Image::render() { std::cout << "<img src=\"IMG\"/>" <<
std::endl; }
```

Image.h

```
#ifndef __IMAGE_H__
#define __IMAGE_H__

#include "PageElement.h"
#include <iostream>

class Image: public PageElement{

    public:
    void render();
};

#endif
```

Page.cpp

```
#include "Page.h"

void Page::addPageElement(PageElement& pe) {
_vector.push_back(&pe); }

void Page::render() {
    std::cout << "<page>" << std::endl;

    for (std::vector<PageElement*>::iterator it =
_vector.begin(); it != _vector.end(); it++){
        std::cout <<"\t";
        (*it)->render();
    }
    std::cout << "</page>" << std::endl;
}
```

Page.h

```
#include "PageElement.h"
#include <vector>
#include <iostream>

class Page: public PageElement{

    std::vector<PageElement* > _vector;

public:

    void addPageElement(PageElement& pe);

    void render();

};
```

Paragraph.cpp

```
#include "Paragraph.h"

void Paragraph::addImage(Image& i) { _vector.push_back(&i); }

void Paragraph::addSpan(Span& s) { _vector.push_back(&s); }

void Paragraph::render() {
    std::cout << "<p>" << std::endl;

    for (std::vector<PageElement*>::iterator it =
_vector.begin(); it != _vector.end(); it++){
        std::cout << "\t";
        (*it)->render();
    }
    std::cout << "</p>" << std::endl;
}
```

Paragraph.h

```
#ifndef __PARAGRAPH_H__
#define __PARAGRAPH_H__

#include "PageElement.h"
#include "Span.h"
#include "Image.h"
#include <vector>
#include <iostream>

class Paragraph: public PageElement{

    std::vector<PageElement*> _vector;

public:

    void addImage(Image& i);

    void addSpan(Span& s);

    void render();

};

#endif
```

Span.cpp

```
#include "Span.h"

void Span::render() {
    std::cout << "<span>TEXT</span>" << std::endl;
}
```

Span.h

```
#ifndef __SPAN_H__
#define __SPAN_H__

#include "PageElement.h"
#include <iostream>

class Span: public PageElement{

    public:
    void render();
};

#endif
```

PageElement.h

```
#ifndef __PAGE_ELEMENT_H__
#define __PAGE_ELEMENT_H__

class PageElement{
    public:
    virtual void render() = 0;

};

#endif
```

Main.cpp

```
#include "Image.h"
#include "Page.h"
#include "PageElement.h"
#include "Paragraph.h"
#include "Span.h"

int main(){

    Page p;
    Image i;
    Paragraph par1;
    Paragraph par2;
    Span s;

    par1.addSpan(s);
    par1.addSpan(s);
    par2.addImage(i);
    p.addPageElement(par1);
    p.addPageElement(par2);

    p.render();

}
```