**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();

}