

```

//
// main.cpp
// Professor
//

int main(int argc, const char * argv[])
{
    Professor layton = new Professor();

    for (int x = 0; x < 10; x++)
    {
        layton->PrepareMaterial(1, x+1);
    }
    for (int x = 0; x < 10; x++)
    {
        layton->Teach(1, x+1);
    }
    return 0;
}

//
// Professor.h
// Professor
//

int memoryLimit = 5;

class Professor {
    Professor();
    ~Professor();
    void PrepareMaterial(int chapter, int section);
    void Teach(int chapter, int section);
    struct material {
        int chapter;
        int section;
    }
    material m[memoryLimit];
    int currentIndex;
    int itemsLearned;
}

```

```

//
// Professor.cpp
// Professor
//

Professor()
{
}

~Professor()
{
    delete [] m;
}

void PrepareMaterial(int chapter, int section)
{
    m[currentIndex++] = (chapter, section);
    if (itemsLearned < memoryLimit)
        itemsLearned++;
    currentIndex = (currentIndex+1)%memoryLimit;
}

void Teach(int chapter, int section)
{
    for (int x = 0; x < itemsLearned; x++)
    {
        if (m[x].chapter == chapter && m[x].section == section)
        {
            std::cout << "Teaching chapter " << m[x].chapter << "
section " << m[x].section << std::endl;
            return;
        }
    }
    std::cout << "Blah, blah, blah" << std::endl;
}

```