프로그래밍 역량 강화 전문기관, 민코딩

Visual Studio 활용

학습을 위한 최소 Cpp 기본 문법 리뷰

필수 기본 문법 1

✓cin, cout

✓if, for, 변수, 배열, 함수

필수 기본 문법 2

✓동적배열, 정적배열
✓reference
✓foreach 문

Refactoring Tool 세팅

실습에 필요한 추가 기능

✓ReSharper C++

- C++ 개발자를 위한 Visual Studio 유료 Extension (교육시에만 무료 라이센스)
- https://www.jetbrains.com/ko-kr/resharper-cpp/

✓주요 기능

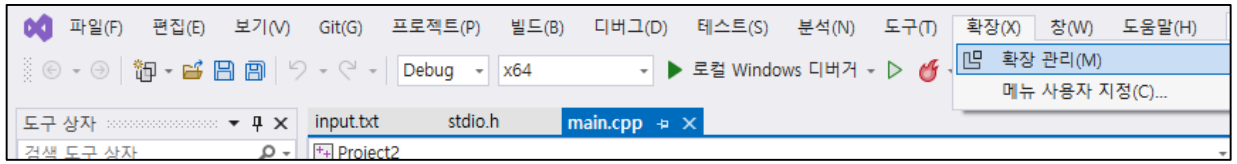
- 소스코드의 문제점에 대한 오류를 알려주고, 자동 해결 기능이 추가 됨
  - Visual Studio 기존 기능보다 더 세심한 기능

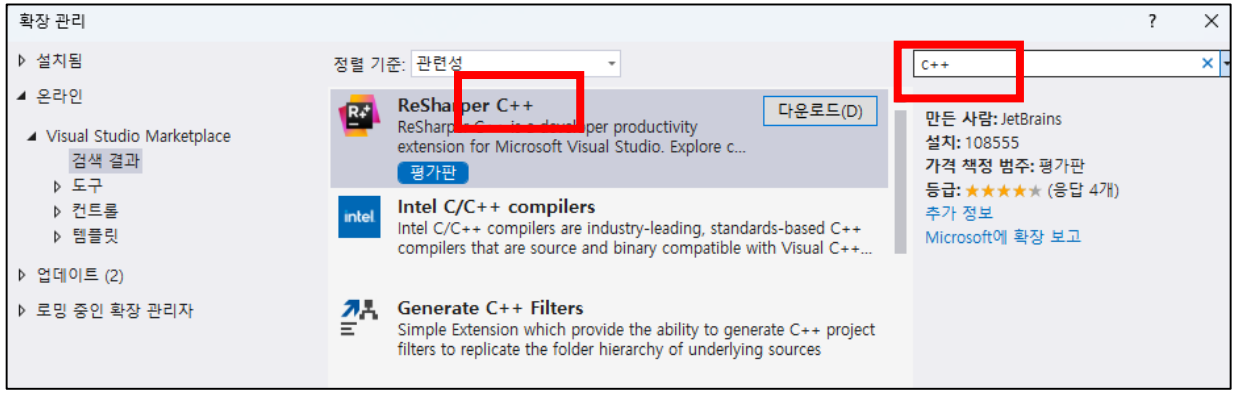
- 코드 리팩터링 기능
  - Visual Studio 기존 기능보다 더 많은 기능 제공

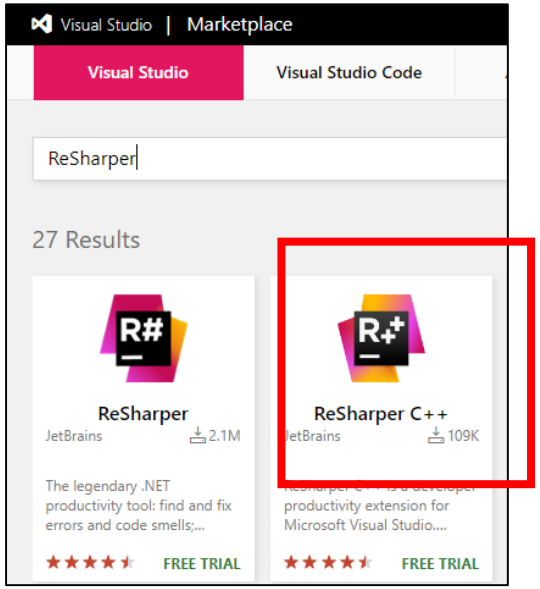
Extention 추가

✓**Visual Studio Market Place**

- 사외 : 확장 (Extention) > 확장 관리 에서 C++로 검색 후 평가판 설치
- 사내 : https://marketplace.visualstudio.com/ 에서 ReSharper C++ 검색 후 다운&설치





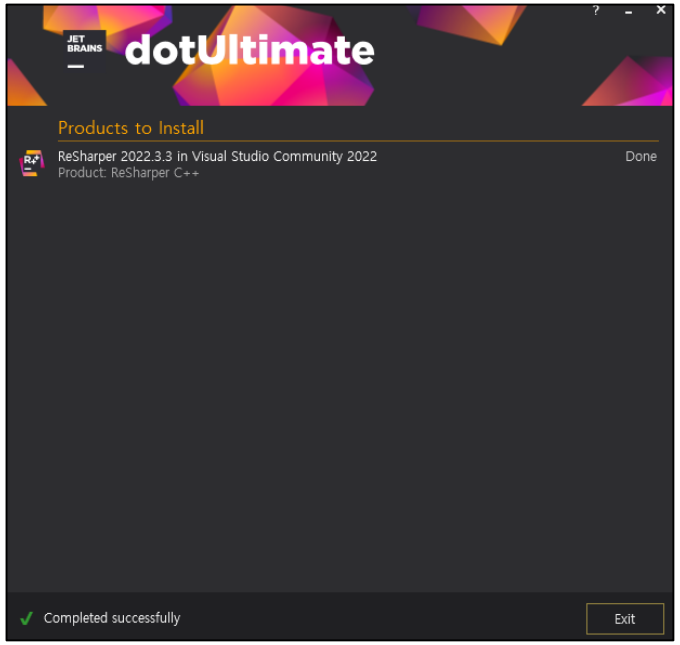


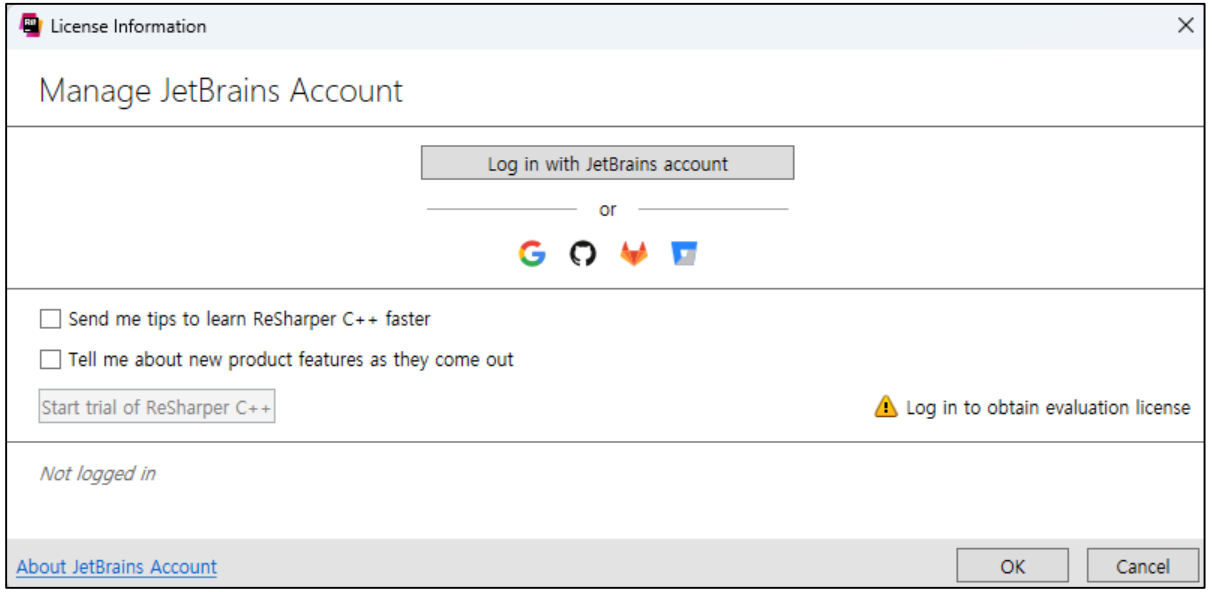
ReSharper (C#버전) 이 아닌, ReSharper C++ 버전

설치하기

✓Visual Studio를 끄고, 설치 완료 후 다시 실행하기

- 가입 7 로그인 하면 Refatoring Tool 사용 시작 가능

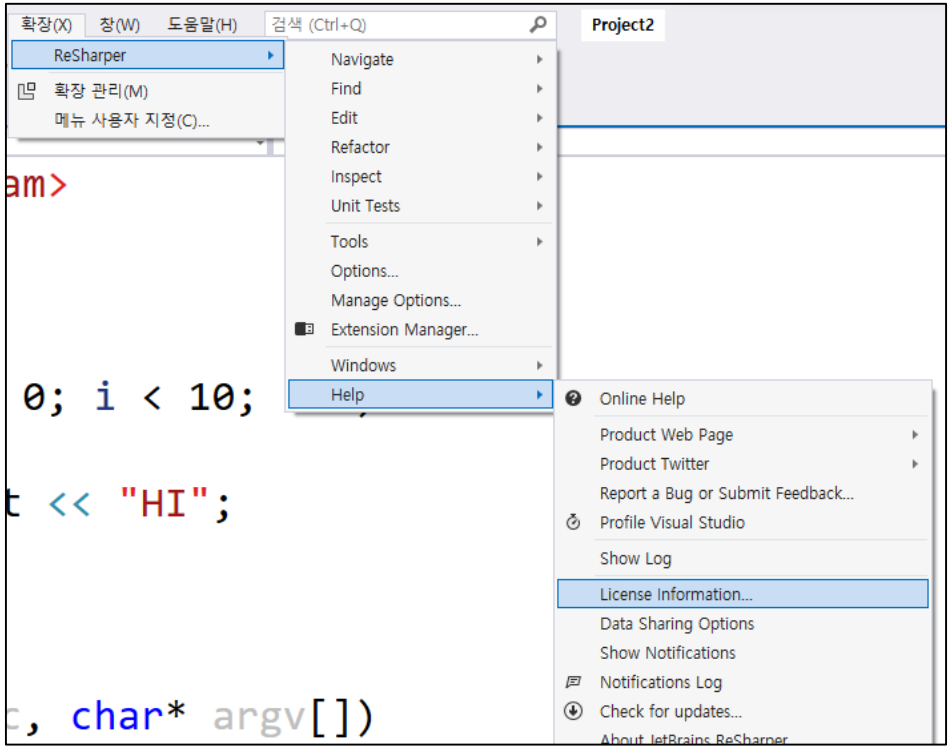


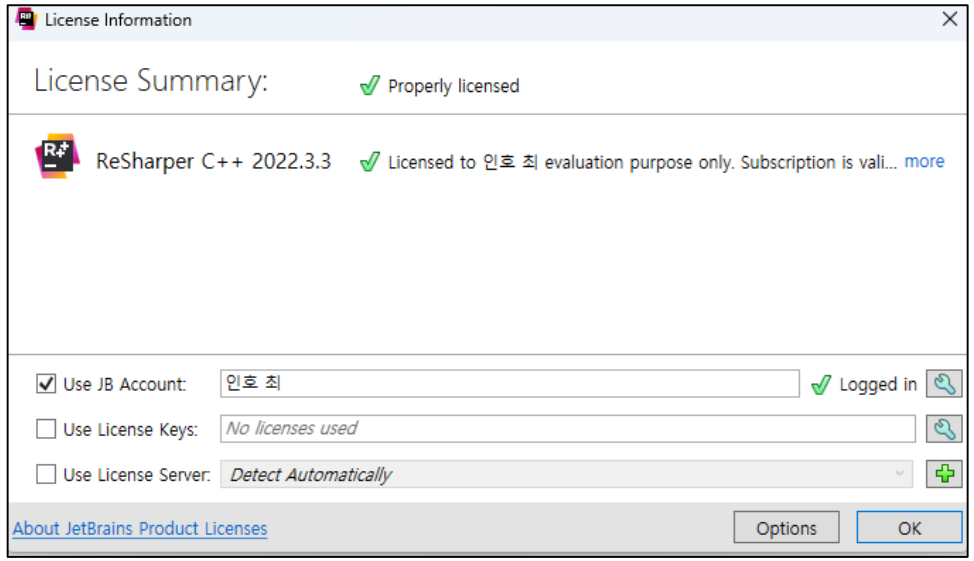


설치 확인

✓확장 > ReShaper 메뉴가 있어야 한다.

- + 라이선스 확인

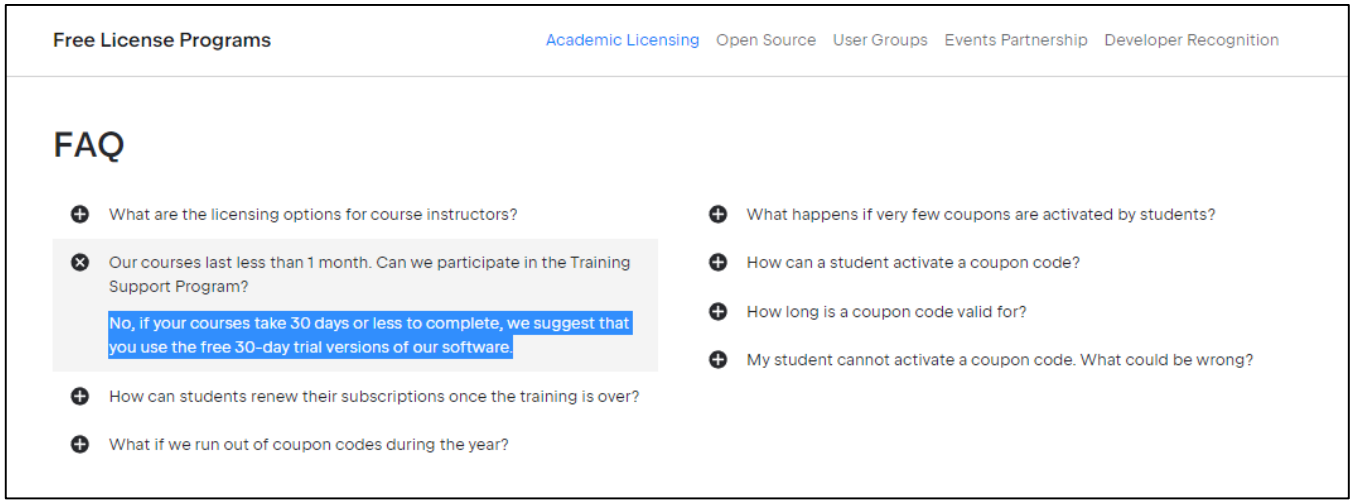




[참고] ReSharper C++ 라이센스

✓영구 폴백 라이선스
- 구독형 이지만, 12개월 구독이 끝나면 마지막 버전에 대해 영구 라이선스
- 가격 : $350 (약 45만원)

✓30일 이하 교육에는
Free License 사용 가능

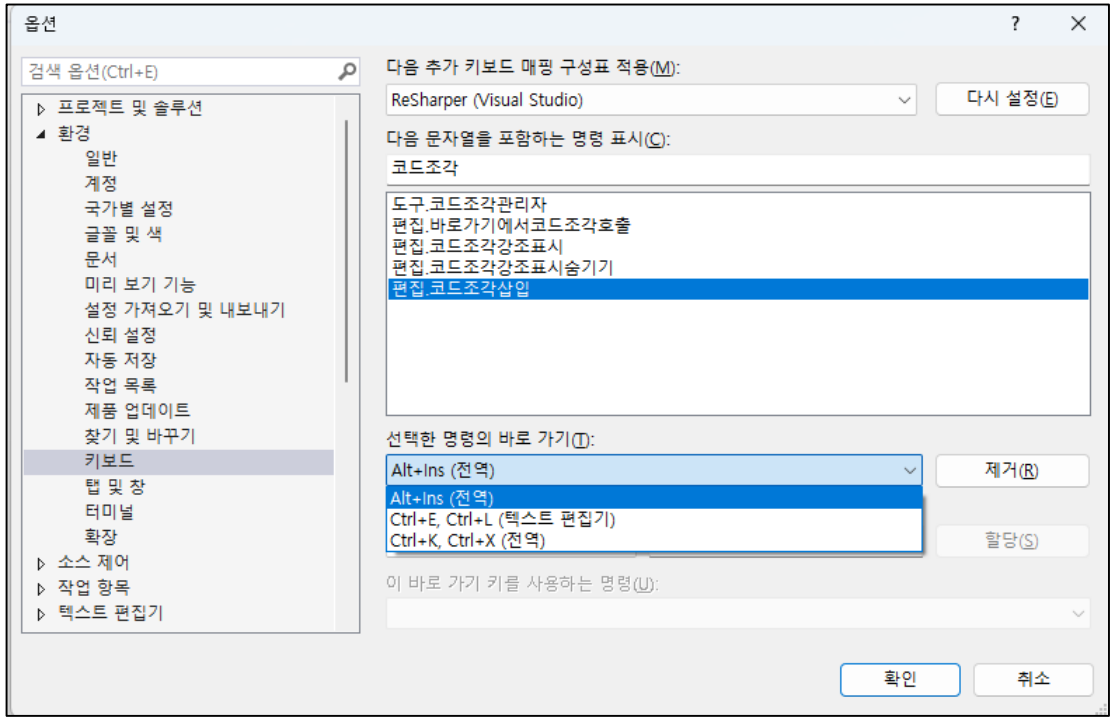


수동 설정 1

✓도구 > 옵션 > 환경 > 키보드

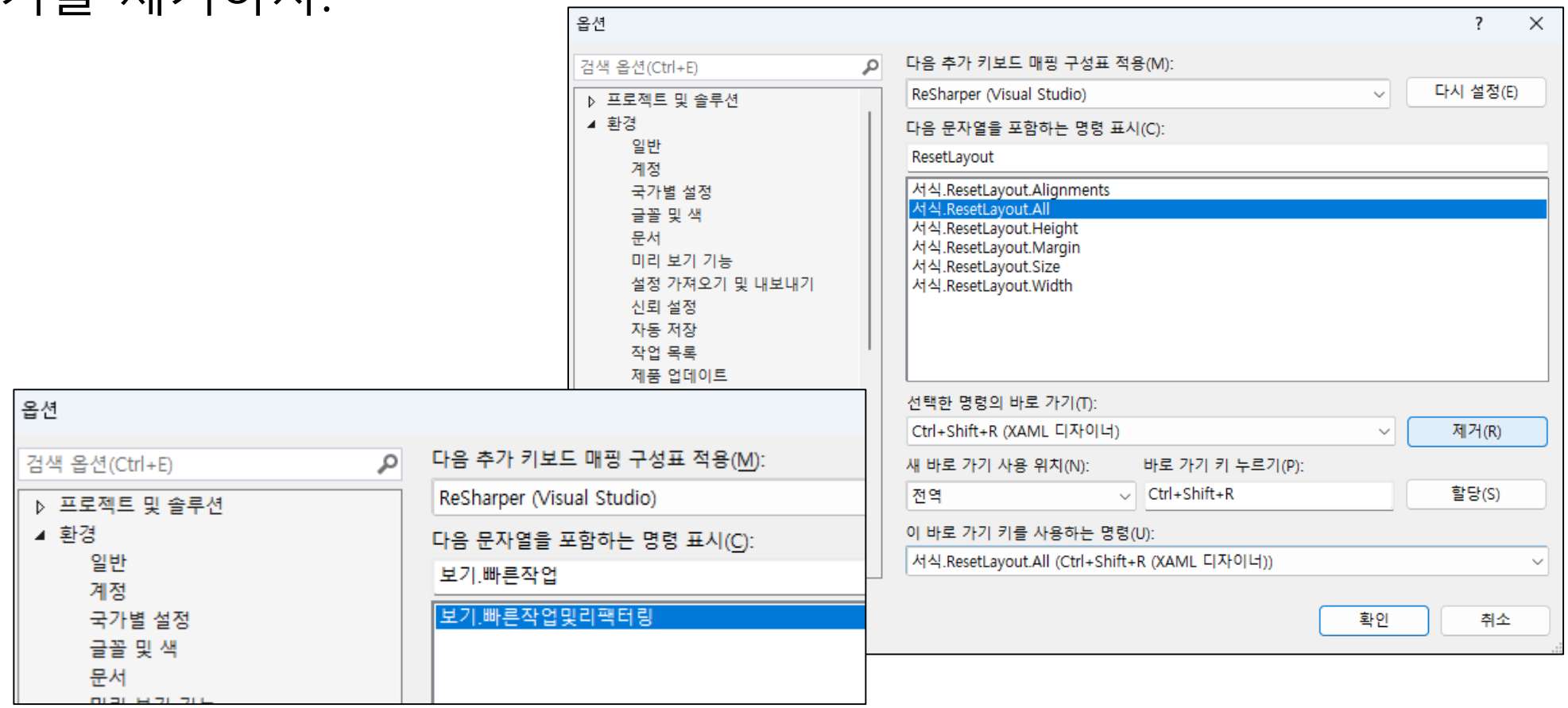
- ReSharper 로 단축키 매핑 설정

- "코드조각" 검색 후
  Alt+Ins 단축키 "제거"
  (Generate 단축키와 충돌됨)



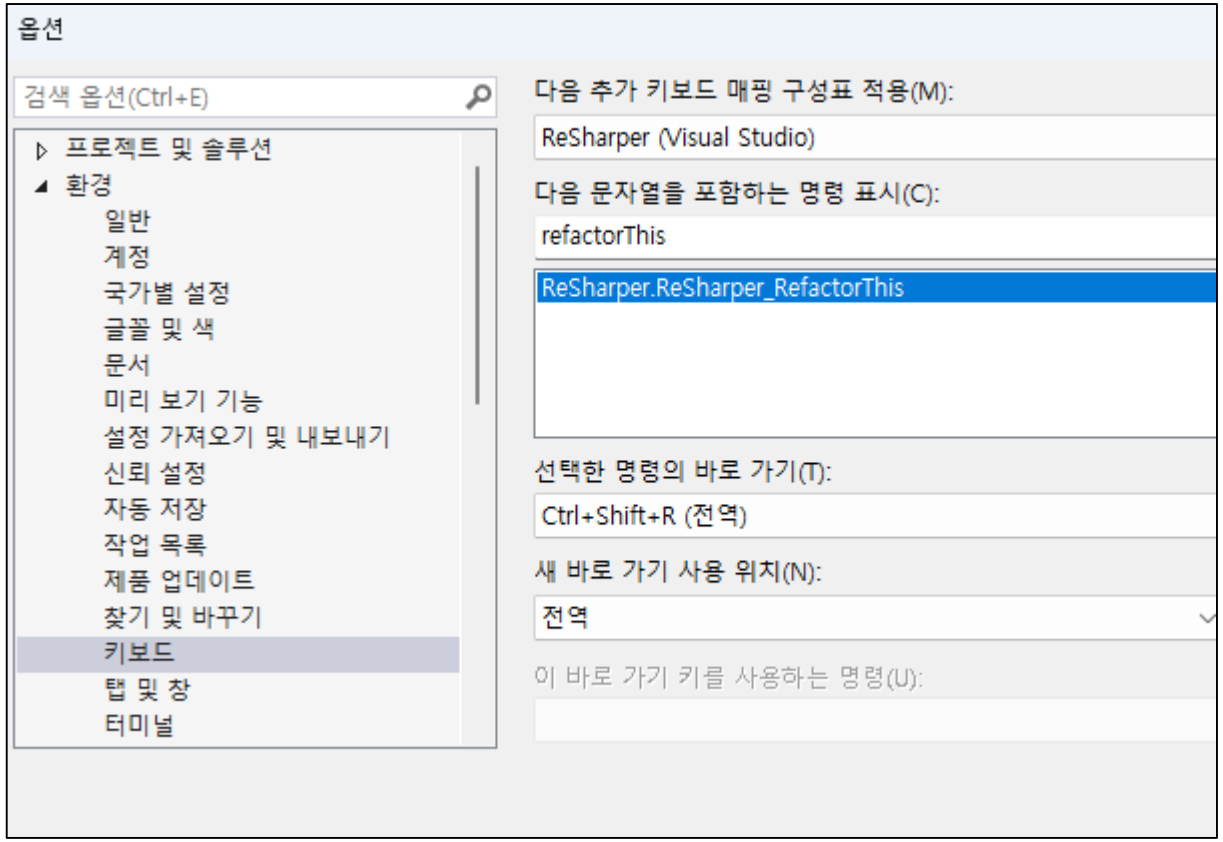
수동 설정 2

✓Ctrl + Shift + R 단축키 : Refatoring This 와 충돌나는 단축키를 제거하자.



Ctrl + Shift + R 단축키 등록

✓수동으로 등록해주자.

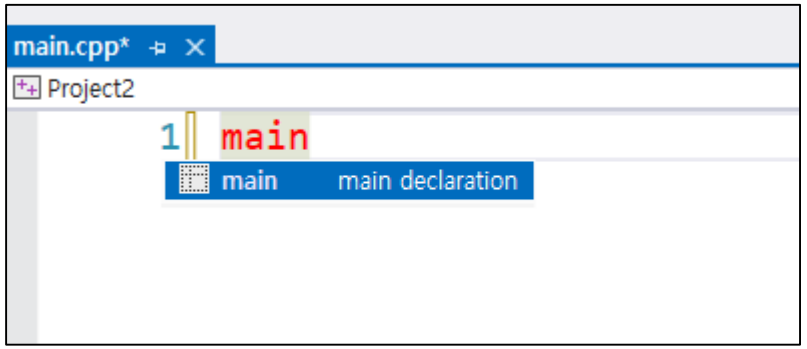


빈 소스코드에 시작

main 입력 후 Tab 누르면 자동완성

main 입력 후 ESC 한번 누르고, 다시 Ctrl + Space

- **Ctrl + Space : Symbol code completion**

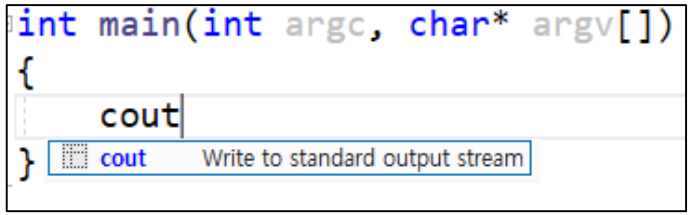


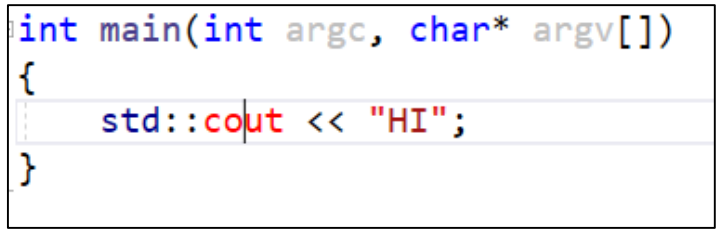

```
int main(int argc, char* argv[])
{

}
```

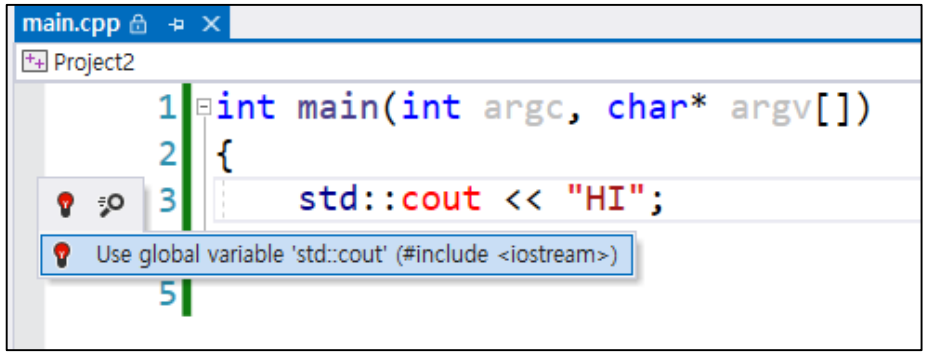
Quick Fix

✓오류를 고치는 방법을 제안한다.

- Alt + Enter







Ctrl + D / Shift + Delete

✓한줄 복제 / 한줄 삭제

```
int main(int argc, char* argv[])
{
    int ret = getSum(10, 20);

    std::cout << "HI";
    std::cout << "HI";
    std::cout << "HI";
    std::cout << "HI";
}
```

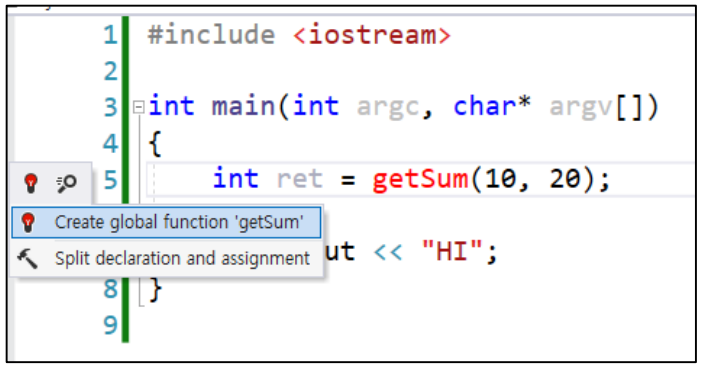
Alt + 드레그

✓커서 한꺼번에 선택

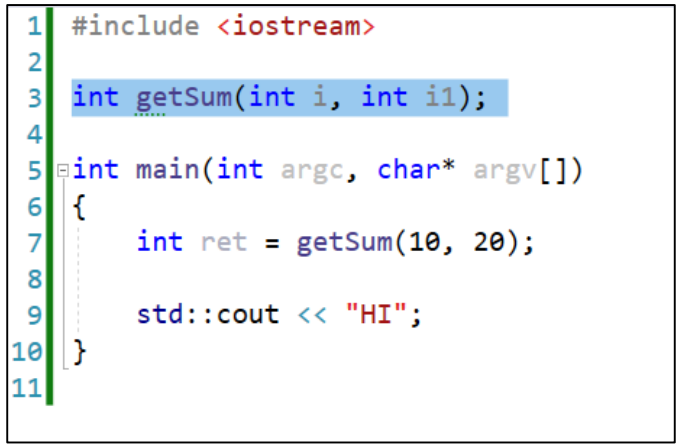
```
int main(int argc, char* argv[])
{
    int ret = getSum(10, 20);

    std::cout << "HOHO HI";
    std::cout << "HOHO HI";
    std::cout << "HOHO HI";
}
```

getSum 추가 후 Alt + Enter

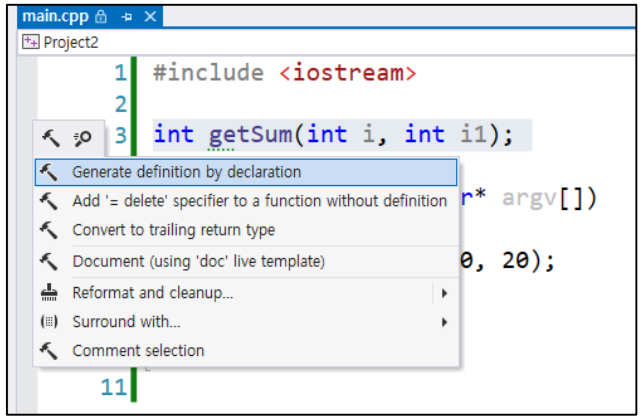
✓Create 함수 > Tab 여러 번 누르기



Create 함수 이후 탭 여러번



블럭잡고 다시 Alt + Enter



선언에 대한 정의 생성하기

이름바꾸기

✓return 문 수동 입력 후, Ctrl + R, R

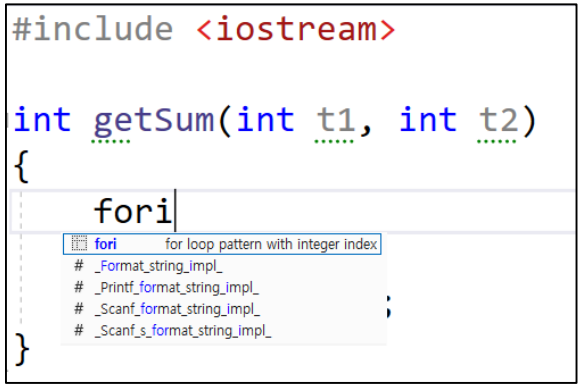
```
#include <iostream>

int getSum(int i, int i1)
{
    return i + i1;
}
```

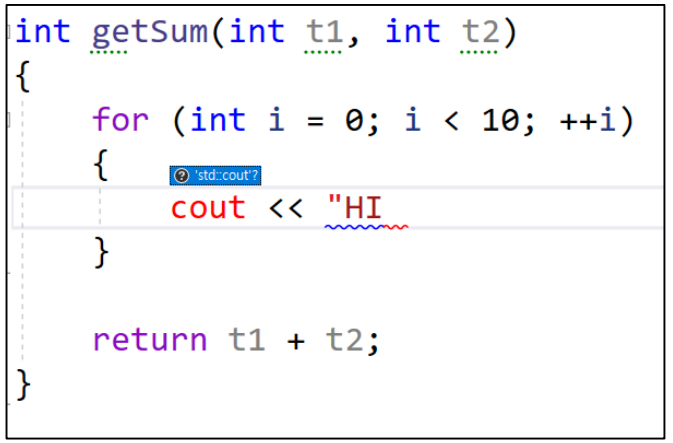
```
#include <iostream>

int getSum(int t1, int t2)
{
    return t1 + t2;
}
```

fori 와

fori 입력 후 Tab 키 2회 > 10 입력 > 탭키

- cout << “HI 까지 입력 후 Ctrl + Shift + Enter 입력 (코드 완성하기)

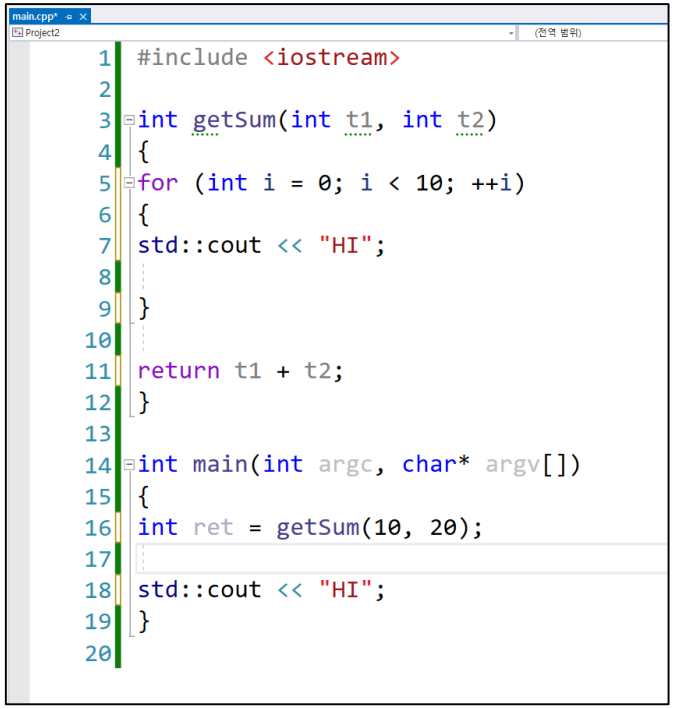


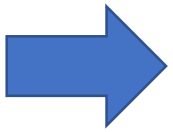


Ctrl + Alt + Enter

✓Reformat code

- Shift + Tab으로 들여쓰기를 지저분하게 만든 후, 테스트 해보기



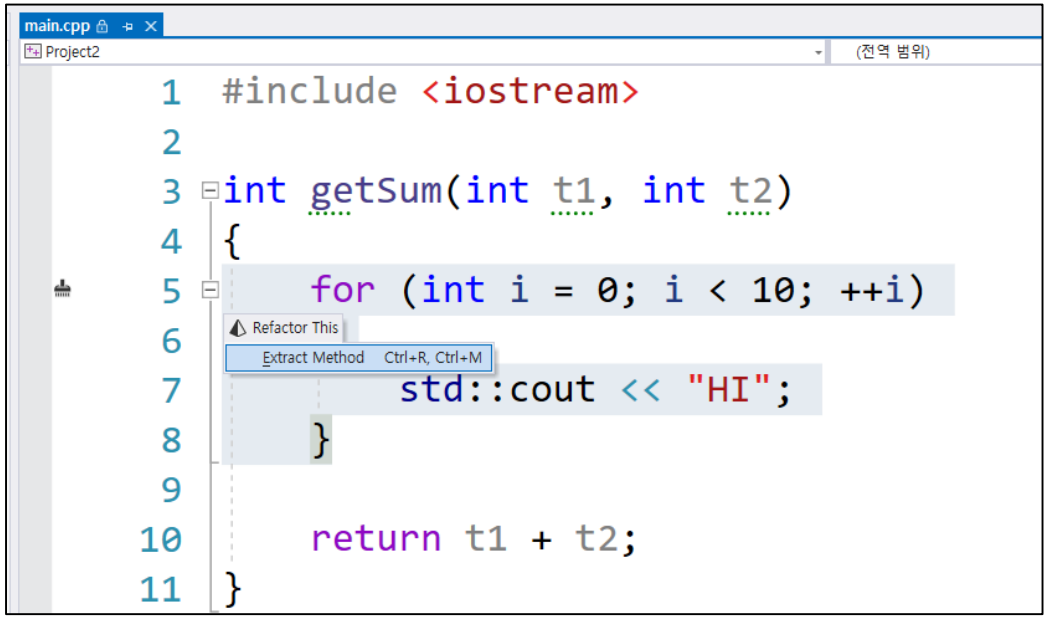


```cpp
#include <iostream>

int getSum(int t1, int t2)
{
    for (int i = 0; i < 10; ++i)
    {
        std::cout << "HI";

    }

    return t1 + t2;
}

int main(int argc, char* argv[])
{
    int ret = getSum(10, 20);

    std::cout << "HI";
}
```

Refactor This

✓Ctrl + Shift + R

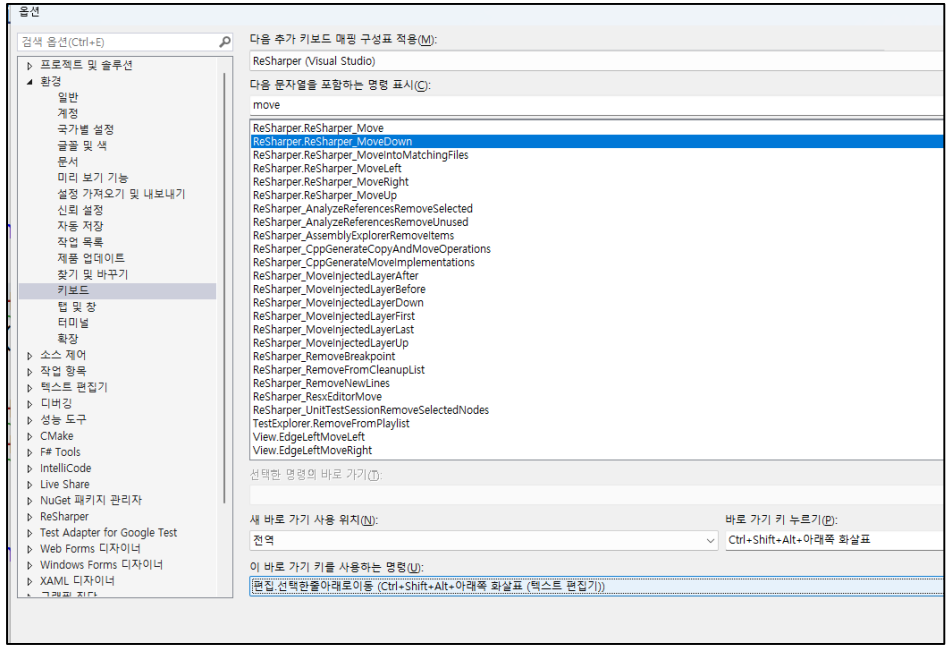
- Refator This가 뜨지 않는다면,
  다른 단축키와 충돌 나고 있는 것이다.
- 수동으로 단축키 재설정 해야한다.

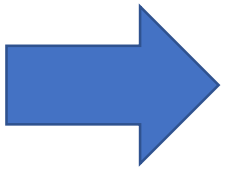



```cpp
#include <iostream>

void do_work()
{
    for (int i = 0; i < 10; ++i)
    {
        std::cout << "HI";
    }
}

int getSum(int t1, int t2)
{
    do_work();

    return t1 + t2;
}

int main(int argc, char* argv[])
{
    int ret = getSum(10, 20);

    std::cout << "HI";
}
```

소스코드 이동시키기

✓블록잡고
Ctrl + Alt + Shift + UP / Down



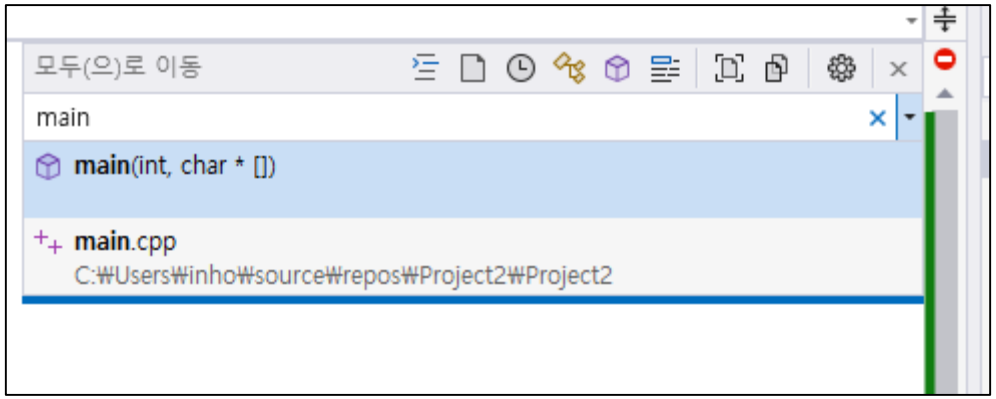


```
11  int main(int argc, char* argv[])
12  {
13      int ret = getSum(10, 20);
14
15      std::cout << "HOHO HI";
16      std::cout << "HOHO HI";
17      std::cout << "HOHO HI";
18  }
19  int getSum(int t1, int t2)
20  {
21
22
23      return t1 + t2;
24  }
```

Visual Studio 의
코드 이동기능을 ReShaper 기능으로 변경

파일 찾기

✓빠르게 파일을 열 수 있음



ReSharper C++

DEFAULT KEYMAP

Visual Studio scheme

Create

Symbol code completion	V Ctrl+Space
Smart code completion	Ctrl+Alt+Space
Parameter info	Ctrl+Shift+Space
Go to previous signature (in parameter info)	Ctrl+Shift+Alt+Space
Extend selection	Ctrl+Alt+Right
Shrink selection	Ctrl+Alt+Left
Duplicate a line or selection	V Ctrl+D
Select containing declaration	Ctrl+Shift+[
Comment/uncomment line	Ctrl+Alt+/
Comment/uncomment block	Ctrl+Shift+/
Generate code (constructors, properties, implementing/overriding members, etc)	V Alt+Ins
Insert live template	Ctrl+E, L
Surround with template	Ctrl+E, U
Create file from template	Alt+Ins in Solution Explorer
Go to last edit location	Ctrl+Shift+Backspace
View recent files	Ctrl+,
View recent edits	Ctrl+Shift+,
Go to related files	Ctrl+Alt+F7
View bookmarks	Ctrl+`
Go to bookmark	Ctrl+[numeric key]
Set/remove bookmark	Ctrl+Shift+[numeric key]
Quick documentation	Ctrl+Shift+F1

Explore

Go to everything	V Ctrl+T
Go to type	Ctrl+T (second hit)
Go to symbol	Shift+Alt+T
Go to word	Ctrl+T+T+T
Go to file	Ctrl+Shift+T
Go to file member	Alt+₩
Find usages	Shift+F12
Find usages (advanced)	Ctrl+Shift+Alt+F12
Find Results window	Ctrl+Alt+F12
Highlight usages in file	Shift+Alt+F11
Go to previous usage	Ctrl+Alt+PgUp
Go to next usage	Ctrl+Alt+PgDn
Navigate to	Alt+`
Go to declaration/definition	F12
Go to type of symbol	Ctrl+Shift+F11
Go to implementation	Ctrl+F12
Go to base symbols	Alt+Home
Go to derived symbols	Alt+End
Go to usage	Shift+Alt+F12
File structure	Ctrl+Alt+F
Go to next/previous member	Alt+ ↓/↑
Go to containing declaration	Ctrl+[
To-do items	Ctrl+Alt+D
Locate in Solution Explorer	Shift+Alt+L

Improve

Show available quick-fixes and context actions	V Alt+Enter
Inspect this	Ctrl+Shift+Alt+A
Inspection Results window	Ctrl+Alt+V
View type hierarchy	Ctrl+E, H
Go to next highlight (error, warning or suggestion)	Alt+PgDn
Go to previous highlight (error, warning or suggestion)	Alt+PgUp
Refactor this	V Ctrl+Shift+R
Rename	V Ctrl+R, R
Extract method	Ctrl+R, M
Introduce variable	Ctrl+R, V
Change signature	Ctrl+R, S
Code cleanup	Ctrl+E, C
Apply code style	Ctrl+Alt+S
Reformat code	V Ctrl+Alt+Enter

V 앞으로 수업에 자주 사용할 단축키