Problem Statement Assignment

Assignment 1

```
// PROBLEM DEFINITION
// ------------------
// Reverse each word in the input string.
// The order of the words will be unchanged.
// A word is made up of letters and/or numbers.
// Other characters (spaces, punctuation) will not be reversed.

// NOTES
// -----
// Write production quality code
// We prefer clarity over performance (though if you can achieve both - great!)
// You can use the language that best highlights your programming ability
// the template below is in C++
// A working solution is preferred (assert in main() should succeed)
// Bonus points for good tests

#include <string>
#include <cassert>

std::string reverse_words(const std::string &str)
{
    // TODO: Implement this function
    return "???";
}

int main()
{
    std::string test_str = "String;   2be reversed...";
    assert(reverse_words(test_str) == "gnirtS;   eb2 desrever...");
    return 0;
}
```

Assignment 2

Refactor code

Not timed (good to get it back within 24 hours)
#
An intern has provided the code below to update the version number
within two different files.
The intern has left and you need to review and improve the code before
submitting to source control.
#
Please do not be constrained by the existing code (i.e. you don't have
to keep the same function names, structure)
Aim for production quality 'best-practice/clean' code
#
Original Requirements

A script in a build process needs to update the build version number in 2
locations.
- The version number will be in an environment variable "BuildNum"
- The files to be modified will be under "$SourcePath/develop/global/src"
directory
- The "SConstruct" file has a line "point=123," (where 123
(just an example) should be updated with the value of "BuildNum"
Environment variable)
- The "VERSION"file has a line "ADLMSDK_VERSION_POINT= 123" (where 123
(just an example) should be updated with the value of "BuildNum"
Environment variable)

```python
import os
import re

# SCONSTRUCT file interesting lines
# config.version = Version(
# major=15,
# minor=0,
# point=6,
# patch=0
#)
def updateSconstruct():
    "Update the build number in the SConstruct file"
    os.chmod(os.path.join(os.environ["SourcePath"],"develop","global","src","SConstruct"), 0755)
    fin = open(os.path.join(os.environ["SourcePath"],"develop","global","src","SConstruct"), 'r')
    fout = open(os.path.join(os.environ["SourcePath"],"develop","global","src","SConstruct1"), 'w')
    for line in fin:
        line=re.sub("point\=[\d]+","point="+os.environ["BuildNum"],line)
            fout.write(line)
    fin.close()
    fout.close()
    os.remove(os.path.join(os.environ["SourcePath"],"develop","global","src","SConstruct"))
    os.rename(os.path.join(os.environ["SourcePath"],"develop","global","src","SConstruct1"),
        os.path.join(os.environ["SourcePath"],"develop","global","src","SConstruct"))


# VERSION file interesting line
# ADLMSDK_VERSION_POINT=6
def updateVersion():
    "Update the build number in the VERSION file"
```

```python
    os.chmod(os.path.join(os.environ["SourcePath"],"develop","global","src","VERSION"), 0755)
    fin = open(os.path.join(os.environ["SourcePath"],"develop","global","src","VERSION"), 'r')
    fout = open(os.path.join(os.environ["SourcePath"],"develop","global","src","VERSION1"), 'w')
    for line in fin:
        line=re.sub("ADLMSDK_VERSION_POINT=[\d]+","ADLMSDK_VERSION_POINT="+os.environ["BuildNum"],line)
        fout.write(line)
    fin.close()
    fout.close()
    os.remove(os.path.join(os.environ["SourcePath"],"develop","global","src","VERSION"))
    os.rename(os.path.join(os.environ["SourcePath"],"develop","global","src","VERSION1"),
        os.path.join(os.environ["SourcePath"],"develop","global","src","VERSION"))


def main():
    updateSconstruct()
    updateVersion()


main()
```