

Physics 2G03 – Homework 2

1.1) The *main()* function

```
int main() {  
    return 0;  
}
```

*When removing the semi-colon after **return**, the error I get is:*

```
marcantony.cpp: In function 'int main()':  
marcantony.cpp:13:1: error: expected ';' before '}' token  
    }  
    ^
```

1.2) Including Input and Output

```
#include <iostream>  
  
int main() {  
    return 0;  
}
```

1.3) Writing to the terminal

```
#include <iostream>

int main() {

    std::cout << "Friends, Romans, countrymen, lend me your ears\n";

    return 0;
}
```

```
#include <iostream>

using namespace std;

int main() {

    cout << "Friends, Romans, countrymen, lend me your ears\n";

    return 0;
}
```

*After removing the **using namespace** declaration, the error I get is:*

```
marcantony.cpp: In function 'int main()':
marcantony.cpp:5:5: error: 'cout' was not declared in this scope
    cout << "Friends, Romans, countrymen, lend me your ears\n";
    ^
marcantony.cpp:5:5: note: suggested alternative:
In file included from marcantony.cpp:1:0:
/usr/include/c++/4.8.2/iostream:61:18: note:   'std::cout'
    extern ostream cout;   /// Linked to standard output
```

2.0) Variables

```
int main() {  
  
    int a = 5; // an integer  
    double pi = 3.14; // a real number  
  
    return 0;  
}
```

*After removing the **int** specifier, the error I get is:*

```
sum.cpp: In function 'int main()':  
sum.cpp:4:5: error: 'a' was not declared in this scope  
    a = 5; // an integer  
    ^
```

```
#include <iostream>  
#include <string>  
  
using namespace std;  
  
int main() {  
  
    // a string of letters  
    string greeting = "Friends, Romans, countrymen, lend me your ears!!\n";  
    cout << greeting;  
  
    return 0;  
}
```

3.0) Reading from the terminal

```
#include <iostream>

using namespace std;

int main() {

    int a, b;

    cout << "Please give me two integers.\n";
    cin >> a;
    cin >> b;

    cout << "Your sum is: " << '\t' << a+b << endl;

    return 0;
}
```

If the user tries to input the numbers 1.3 and 3.6, the program stops at the first input, skips the second, and the final output is:

Your sum is: 1

Exercises

1.

```
#include <iostream>
#include <string>

using namespace std;

int main() {
    int a, b, c;

    string prompt = "Please give me ";

    cout << '\n' << prompt << "an integer: ";
    cin >> a;

    cout << prompt << "a second integer: ";
    cin >> b;

    cout << prompt << "another integer: ";
    cin >> c;

    cout << "\nThe sum is: " << (a + b + c) << endl;
    cout << "The product is: " << (a * b * c) << '\n' << endl;

    return 0;
}
```

2.

```
#include <iostream>
#include <string>

using namespace std;

int main() {

    string word_1, word_2, concat = "", prompt = "Please give me a";

    cout << "\n" << prompt << " word: ";
    cin >> word_1;

    cout << prompt << "nother word: ";
    cin >> word_2;

    concat = word_1 + word_2;
    cout << "\n" << concat << "\n";
    //cout << "\nYou said '" << concat << "'\n" << endl;

    return 0;
}
```