

## CSE 202, Winter 2018: Quiz 1

1. (2 points) What are the minimum sizes (in bytes) of `short int`, `int`, and `long int` respectively?

**Solution:** 2, 2, 4

2. (4 points) What does the following C++ program display?

```
#include <iostream>
int main()
{
    int a = 5;
    int b = a++;
    b *= ++a + b % 3;
    std::cout << (-b - a) << std::endl;
    return 0;
}
```

**Solution:** -52

3. (4 points) Write the following mathematical function as a C++ function.

$$x(t) = 2 \cos \left( \sqrt{\frac{9.8}{5}} t + 1 \right)$$

**Solution:**

```
double x(double t) { return 2 * cos(sqrt(9.8 / 5) * t + 1); }
```

4. (10 points) Write a C++ program that reads all numbers from standard input and displays the mean value. Do not use vectors or arrays in your program.

See next page for solution.

**Solution:**

```
#include <iostream>
int main()
{
    double n, sum = 0.0;
    unsigned int count = 0;

    while (std::cin >> n) {
        sum += n;
        ++count;
    }
    std::cout << (sum / count) << std::endl;
    return 0;
}
```