

## Lab #7

### Question One, Part B:

**Short:** Fails at 8! Because the result of 8! is outside the range of the short data type.

**Unsigned Short:** Fails at 9! as the result of 9! is outside the range of the unsigned short data type

**Integer:** Fails at 13! as the result of 13! is outside the range of the integer data type.

**Unsigned Integer:** Fails at 13! as the result of 13! is outside the range of the unsigned integer data type.

**Long:** Fails at 50! as the result of 50! is outside the range of the Long data type.

**Unsigned Long:** Fails at 70! as the result of 70! is outside the range of the unsigned long data type.

**Long Long:** Fails at 25! as the result of 25! is outside the range of the long data type.

**Unsigned Long Long:** Fails at 25! as the result of 25! is outside the range of the unsigned Long Long data type.

**Long double:** Fails at 3249! as the result of 3249! is outside the range of the long double data type.

### Part C:

As unsigned long long fails at 25! the data type Long Double does not fail till 3249!, therefore long double will give us the exact factorial number, which is  $1.55112e+25$ .