

Critical Thinking: Rania Maaraba

One of the more notable nesting functions that is common in C++ is the common *else* statement and *if* statement. This is comparable to the Matryoshka as it shows their dependency on each other and how they relate.

Lesson Plan:

To better understand this, let's look at a matryoshka. We first start out with the outer doll. We have nothing but this doll right now, but let's open it once. Now we can see there is another doll inside of the first one, without the bigger doll we can't have this second smaller doll.

```
99      if (user_model_year < 11 && user_car_accidents <= 3) {  
100      |   if (user_model_year < 5) {  
101      |       baseline = 0.85;  
102      |   } else if (user_model_year < 9 ) {  
103      |       baseline = 0.63;  
104      |   } else if (user_model_year <= 10) {  
105      |       baseline = 0.45;  
106      |   }
```

Now, let's look at this if statement. We have an exterior if statement all by itself, then we open it up to see another. This second if statement is dependent on the conditions of the first just how the doll is dependent on the space inside of the first one.

The same can be said for an else statement. In this picture below, the same thing is happening with the else as with the if statement in the previous example. We can see how the else (or the previous second if) is dependent on the initial statement just like the dolls.

```
120      if (user_car_has_premium_options == 1) {  
121      |   premium = 0.05;  
122      | } else {  
123      |   premium = 0;  
124      | }
```