### The Visitor pattern is designed around **double dispatch** (fundamental)

### **Double Dispatch**

* **What is it?** Double dispatch is a technique where a method call is dynamically dispatched based on the runtime type of *two* objects instead of just one.
* **In the Visitor Pattern:** When you call element.accept(visitor), the element calls back visitor.visit(this).  
   The first dispatch happens on the element’s accept() method (based on element’s type).  
   The second dispatch happens on the visitor’s visit() method (based on visitor’s type and the exact element subclass).
* **Why it matters:** This allows the program to execute the correct visitor method for the exact type of element being visited, enabling clean separation without type checking or casting.