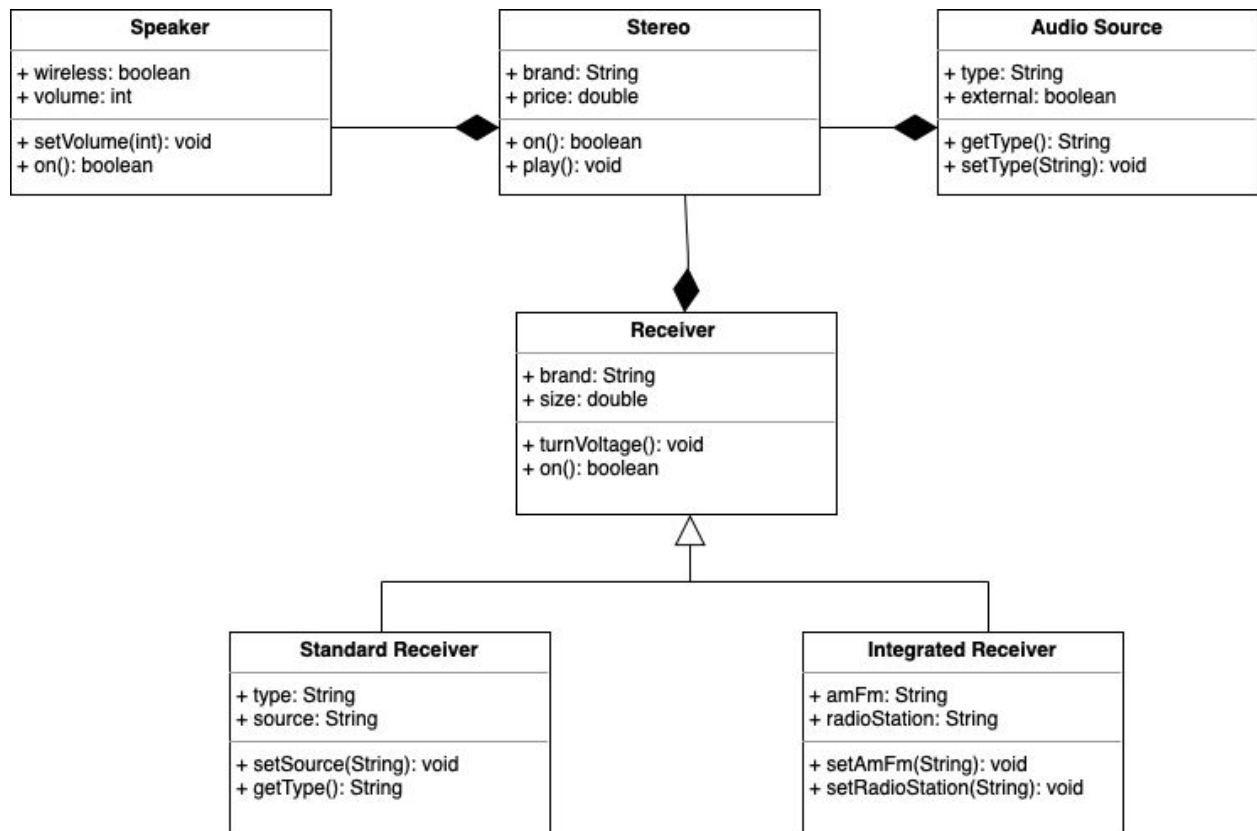
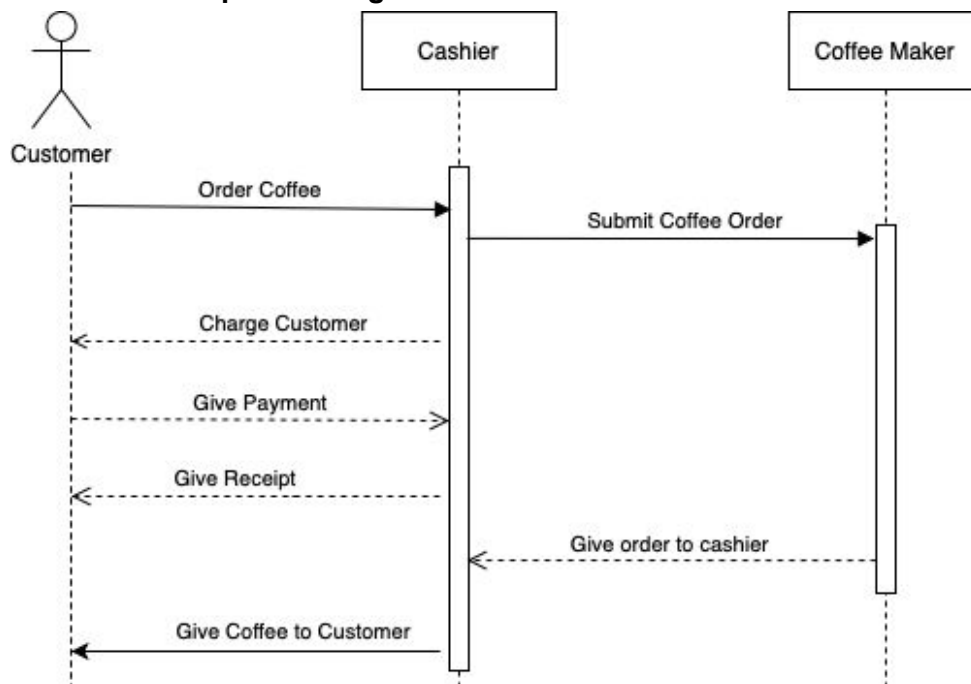


## Homework 1

### Question 1: UML Diagram



### Question 2: Sequence Diagram



### Question 3: Big O Notation

1.  $O(0)$   
 $O(5)$   
 $O(2/N)$   
 $O(\log N)$   
 $O(\sqrt{N})$   
 $O(N)$   
 $O(N \log N)$   
 $O(N^{1.5})$   
 $O(N^2)$   $O(NM)$   
 $O(N^4)$   
 $O(2^N)$   
 $O(\text{infinity})$
2. Complexity
  - a.  $O(n)$
  - b.  $O(n^2)$
  - c.  $O(n^2)$
  - d.  $O(n^4)$