

Clariti Cloud

Software Engineer Technical Test

Clariti Technical Interview Process

1. Take home design and coding assignment (3 days to complete)
2. Assignment review and collaborate design session 45 mins conference call

Task 1: Coding

Using design and development tools, languages, and techniques you are most familiar with create an objected orientated console application solution that **given a tabular set of fees constructs a tree representing the hierarchy nature of the fees** and then **performs specific calculations to determine the total fees amount for a given node within the tree.**

Your application should be able to answer questions similar to those shown below:

What are the total **Cat1** fees within the Quality **Assurance** Category of the **Development** department?

Ans: 110212

What are the total fees for the **Human** Resources category of the **Operations** department? Ans: 229041

A fee's base total is calculated as:

$$\text{Fee Total} = \text{Unit Price} \times \text{Quantity}$$

Additionally, fees within each department are subject to additional surcharges as per the table below.

Department Surcharge	
Marketing	Total + 10%
Sales	Total +15%
Development	Total +20%
Operations	Total – 15%
Support	Total – 5%

Please do not use third party libraries to implement algorithms or data structures. However, please feel free to use any library you need to load the CSV data into your application

Fee Hierarchy

Fees shall be modelled using the example hierarchy below. (Please note this is a partial view)



Deliverables

- Source code
- Unit tests

What we are looking for

- Understanding of Data Structures and Algorithms
- Design considers performance and scalability and operation in enterprise scenarios.
- Design follows industry best practices and design patterns
- Design supports extensibility
- Coding implementation has 75% unit test coverage.

We will be assessing

- Completeness of task
- Code quality
- Algorithm efficiency
- Unit Test Quality and Coverage