**Module Four Unit Test Summary**

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**Summary:**

This project requires development of unit tests for a collection class using the Google Test framework. The goal is to verify the functionality of the collection through various scenarios. Test scenarios cover initialization, element addition, resizing, and exception handling. There are sixteen unit tests in total:

1. CollectionSmartPointerIsNotNull (already filled out)
2. IsEmptyOnCreate (already filled out)
3. AlwaysFail (already filled out)
4. CanAddToEmptyVector
5. CanAddFiveValuesToVector
6. MaxSizeGreaterOrEqualToSizeForVariousEntries
7. CapacityGreaterOrEqualToVariousEntries
8. ResizingIncreasesCollection
9. ResizingDecreasesCollection
10. ResizingCollectionToZero
11. ClearErasesCollection
12. EraseFromBeginToEndErasesCollection
13. ReserveIncreasesCapacityNotSize
14. ThrowsExceptionWhenAccessingOutOfBounds (Negative Test)
15. ThrowsExceptionSettingCapacityToNegative (Negative Test)
16. PoppingCollectionDecreasesSize

Results of unit tests result in fifteen successful tests and failed test (AlwaysFail) as expected. This project emphasizes the importance of thorough testing to ensure logic is sound and obvious bugs and errors are handled. This can help increase code reliability and provide early feedback when developing (NDC Conferences, 2018).

A screenshot of a computer

Description automatically generated

**References**

NDC Conferences. (2018). *C++ Unit Testing – The Good, The Bad & The Ugly – Dror Helper* [Video]. YouTube. https://www.youtube.com/watch?v=gCQDBz-TMIE