

UML:



Testing of Stock Item class:

Test Case	Purpose	Expected Result	Outcome
Creating a test object as follows: test = Stock_Item("555ABA", 5, 9.99).	To test if the class works as intended.	An object named "test" should be created with a stock code of "555BA", an amount of 5 and a price of 9.99.	Works as expected.
test.get_Price_With_VAT()	This is to test whether the function "get_VAT()" works as intended".	The price of 9.99 should be incremented by 17.5 and 27.49 should be outputted.	Works as expected.
test.increase_Stock(0)	This function is supposed to increase the stock by the value its given	An error, "Error: Cannot increase with a zero value" should be outputted	Works as expected.
test.increase_Stock(2)	This function is supposed to increase the stock by the value its given	Stock should rise from 5 to 7	Works as expected.
test.increase_Stock(100)	This function is supposed to increase the stock by the value its given	If 100 is added to 5, it will exceed the stock limit, the stock should not increase	Works as expected.
test.get_Stock_Name()	This is to test if the function is working	Unknown Stock Name	Works as expected.
test.sell_Stock(200)	This function is supposed to reduce the value of the stock by the amount its given	200 is too large of a value, so the function should return "False" and the stock value should not be changed	Works as expected.
test.sell_Stock(0)	This function is supposed to reduce the value of the stock by the amount its given	An error, "Error: Cannot decrease with a zero value" should be outputted	Works as expected.
print(test)	This function is to print out various information of object	The program should output the stock name, stock code, stock description, the	Works as expected.

		quantity remaining in stock, and the price both before and after VAT	
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UML Diagram 2 (Task 2.1):



NavSys

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+item_Stock_Category: str
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+NavSys(stock_Code: String, stock_Quantity: Integer, item_Price:
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Double, brand = String)
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```
+get_Stock_Name(): String
```

```
+get_Stock_Description(): String
```

```
+ str (): String
```

Testing of NavSys Class:

Test Case	Purpose	Expected Result	Outcome
Creating a test NavSys object as follows: test = NavSys("515ABZ", 100, 29.99, "Mine")	To test if the class works as intended.	An object named "test" should be created with a stock code of "515ABZ", an amount of 100 and a price of 29.99.	Works as expected.
print(test.get_Price_With_VAT())	This is to test whether the function "get_VAT()" works as intended".	The price of 29.99 should be incremented by 17.5 and 47.49 should be outputted.	Works as expected.
test.increase_Stock(0)	This function is supposed to increase the stock by the value its given	An error, "Error: Cannot increase with a zero value" should be outputted	Works as expected.
test.increase_Stock(2)	This function is supposed to increase the stock by the value its given	An error should be outputted as the stock is full.	Works as expected.

test.get_Stock_Name()	Returns "Navigation System"	"Navigation System" should be printed out	Works as expected.
test.get_Stock_Description()	This is to test if the function is working	"GeoVision Sat Nav" should be printed out	Works as expected.
print(test)	This function is to print out various information of object	The program should override the "__str__()" function from the parent class "Stock_Item".	Works as expected.