UML:

Stock Item +item_Stock_Category: str +Stock_Item(stock_Code: String, stock_Quantity: Integer, item_Price: Double) +set_Stock_Code(change_Value: String): void +get_Stock_Code(): String +set_Stock_Quantity(change_Value: Integer): void +get_Stock_Quantity(): Integer +set_Item_Price(fixed_stock_code: Double): void +get_Item_Price(): Double +get_Stock_Name(): String +get_Stock_Description(): String +increase_Stock(increase_Value: Integer): void +sell_Stock(increase_Value: Integer): void +get_VAT(): Float +set_Price(set_Value: Double): void +get_Price_No_VAT(): Double +get_Price_With_VAT(): Double +__str__(): String

Testing of Stock Item class:

Test Case	Purpose	Expected Result	Outcome
Creating a test object as follows:	To test if the class	An object named	Works as
test = Stock_Item("555ABA", 5,	works as intended.	"test" should be	expected.
9.99).		created with a	
		stock code of	
		"555BA", an	
		amount of 5 and a	
		price of 9.99.	
test.get_Price_With_VAT()	This is to test	The price of 9.99	Works as
	whether the	should be	expected.
	function	incremented by	
	"get_VAT() works	17.5 and 27.49	
	as intended".	should be	
		outputted.	
test.increase_Stock(0)	This function is	An error, "Error:	Works as
	supposed to	Cannot increase	expected.
	increase the stock	with a zero value"	
	by the value its	should be	
	given	outputted	
	This function is	Stock should rise	Works as
test.increase_Stock(2)	supposed to	from 5 to 7	expected.
	increase the stock		
	by the value its		
	given		
test.increase_Stock(100)	This function is	If 100 is added to 5,	Works as
	supposed to	it will exceed the	expected.
	increase the stock	stock limit, the	
	by the value its	stock should not	
	given	increase	
test.get_Stock_Name()	This is to test if the	Unknown Stock	Works as
	function is working	Name	expected.
test.sell_Stock(200)	This function is	200 is too large of a	Works as
testiseii_stock(200)	supposed to	value, so the	expected.
	reduce the value of	function should	expected.
	the stock by the	return "False" and	
	amount its given	the stock value	
	amount its given	should not be	
		changed	
test.sell_Stock(0)	This function is	An error, "Error:	Works as
	supposed to	Cannot decrease	expected.
	reduce the value of	with a zero value"	27.1000000
	the stock by the	should be	
	amount its given	outputted	
print(test)	This function is to	The program	Works as
, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	print out various	should output the	expected.
	information of	stock name, stock	1
	object	code, stock	
		description, the	
L	I		ı

quantity remaining	
in stock, and the	
price both before	
and after VAT	

UML Diagram 2 (Task 2.1):

Stock Item

+item_Stock_Category: str

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+Stock_Item(stock_Code: String, stock_Quantity: Integer,
item_Price: Double) +set_Stock_Code(change_Value: String):
void
+get_Stock_Code(): String
+set_Stock_Quantity(change_Value: Integer): void
+get_Stock_Quantity(): Integer
+set_Item_Price(fixed_stock_code: Double): void
+get_Item_Price(): Double
+get_Stock_Name(): String
+get_Stock_Description(): String
+increase_Stock(increase_Value: Integer): void
+sell_Stock(increase_Value: Integer): void
+get_VAT(): Float
+set_Price(set_Value:
Double): void
+get_Price_No_VAT(): Double
+get_Price_With_VAT(): Double
+ str (): String
```

NavSys

+item_Stock_Category: str

+NavSys(stock_Code: String, stock_Quantity: Integer, item_Price:

Double, brand = String)

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

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