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CIS 200 Project 3

Class Diagram

Battle

-torpedoes:int

-hypotenuse:double

+Battle()

+~Battle()

+move():void

+Attack(ship \*):void

+status():string

+gettotaltorpedoes():int

+gethypotenuse():double

Ship

#name: string

#align: Alignment

#xLoc: int

#yLoc: int

#range: int

#attackpower: int

#currhealth: int

#maxhealth: int

+ship()

+~ship()

+virtual attack(): voide

+virtual getType():string

+getx(): int

+gety(): int

+getName(): string

+setYloc(int): void

+getalign(): Alignment

+setalign(aligment):void

+virtual status(): string

+virtual move(): void

+changealign(): void

+accessdamage(int):void

+getcurrentHealth(): int

+getmaxhealth(): int

+setcurrenthealth(int):void

+Calchypotenuse(int,int,int,int):double

Cruiser

-hypotenuse:double

+Cruiser(string,int,int,alignment

)

+Cruiser(string,int,int,alignment,int,int)

+~Cruiser()

+move():void

+Attack(ship \*):void

+gethypotenuse():double

Repair

+repair(string,int,int,alignment)

+~ repair ()

+move():void

+Attack(ship \*):void

Cruiser

+corvette(string,int,int,alignment)

+~ corvette ()

+move():void

+Attack(ship \*):void

|  |  |  |  |
| --- | --- | --- | --- |
| Purpose of test | Input | Expected output | Actual output |
| Move Battle ship | 5,5 | 4,4  Health increase by 1 if it’s less then max health | 4,4  Health increase by 1 if it’s less then max health |
| Battle Ship1 attacking another Battle ship1 within range | Battle(“ship1”,5,5,us)  Battle(“ship2”,10,10,them) | Ship2 health =80 | Ship2 health =80 |
| Battle ship1 attacking dead ship2 within range | Battle(“ship1”,5,5,us)  Battle(“ship2”,10,10,them)  Ship2 health=0 | Ship2 health =0 | Ship2 health=0 |
| Move Cruiser ship | 10,10 | 11,12  Health increase by 1 if it’s less then max health | 11,12  Health increase by 1 if it’s less then max health |
| Cruiser ship1 attacking another ship2 within range | Cruiser(“ship1”,10,10,us)  Cruiser(“ship2”,20,20,them) | Ship2 health=45 | Ship2 health=45 |
| Cruiser ship1 attacking out of range chaotic ship2 | Cruiser(“ship1”,10,10,us)  Cruiser(“ship2”,20,20,choatic) | Ship2 health=50 | Ship2 health=50 |
| Cruiser ship1 attacking in range chaotic ship2 | Cruiser(“ship1”,10,10,us)  Cruiser(“ship2”,20,20,choatic) | Ship2 health=45 | Ship2 health=45 |
| Move Corvette ship | 10,15 | 15,20  Health increase by 1 if it’s less then max health | 15,20  Health increase by 1 if it’s less then max health |
| Corvette ship1 attacking opposite battle ship2 | Corvette(“ship1”,20,10,us)  Battle(“ship2”,20,15,them) | Ship2 alignment=us | Ship2 alignment=us |
| Corvette ship1  Attacking battle chaotic ship2 | Corvette(“ship1”,20,10,us)  Battle(“ship2”,10,10,chaotic) | Ship2 alignment=chaotic | Ship2 alignment=chaotic |
| Repair ship move | 10,10 | 11,12 | 11,12 |
| Repair ship1 attacking same alignment battle ship2 with health of 10 | Repair(“ship1”,10,10,us)  Battle(“ship2”,20,20,us)  Ship2 health= 10 | Ship2 health=100 | Ship2 health=100 |
| Repair ship1 with chaotic alignment attacking cruiser ship2 with chaotic alignment with health level of 5 | Repair(“ship1”,10,10,chaotic)  Cruiser(“ship2”,20,20,chaotic)  Ship2 health is 5 | Ship2 health=5 | Ship2 health=5 |