Test Strategy

Class diagram

Ship
shipName: String xPos: int yPos: int noOfHitsMade: int noOfHitsNeeded: int
Ship() Ship(shipName: String, xPos: int, yPos: int, noOfHitsMade: int, noOfHitsNeeded: int) getShipName(): String getXpos(): int getYpos(): int getNoOfHitsMade(): int getnoOfHitsNeeded(): int setShipName(shipName: String): void setXpos(xPos: int): void setYpos(yPos: int): void setNoOfHitsMade(noOfHitsMade: int): void setnoOfHitsNeeded(noOfHitsNeeded: int): void madeIncrement(): void display(): void

Test Plan

1. Create a Ship object with default constructor
2. Create s Ship object with non-default constructor
    a. With valid field values
    b. With invalid field values
3. Test all the get methods
4. Test all the set methods
    a. With valid arguments
    b. With invalid arguments
5. Test the display method

Test 1
Create a ship object with default constructor

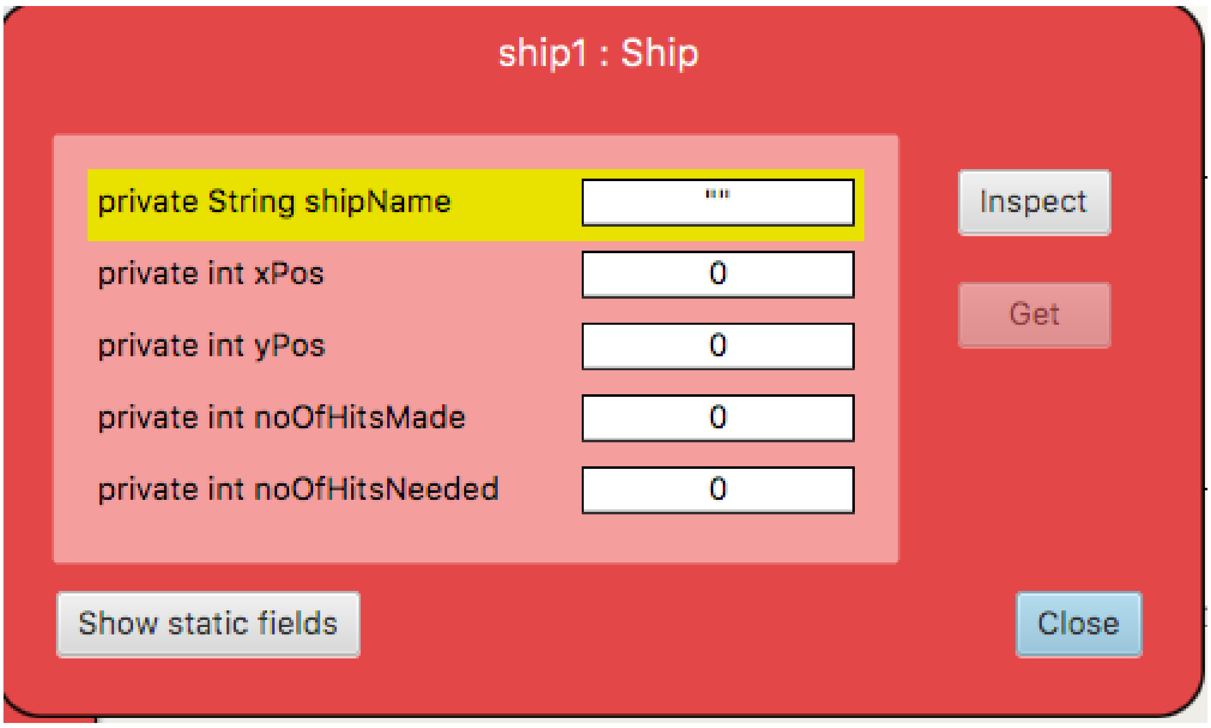
Test Data:

- No input

Expected Results:

shipName:	“”
xPos:	0
yPos:	0
noOfHitsMade:	0
noOfHitsNeeded:	0

Actual Results:


ship1 : Ship

private String shipName	""
private int xPos	0
private int yPos	0
private int noOfHitsMade	0
private int noOfHitsNeeded	0

Test 2

a. Create a ship object with non-default constructor with valid values

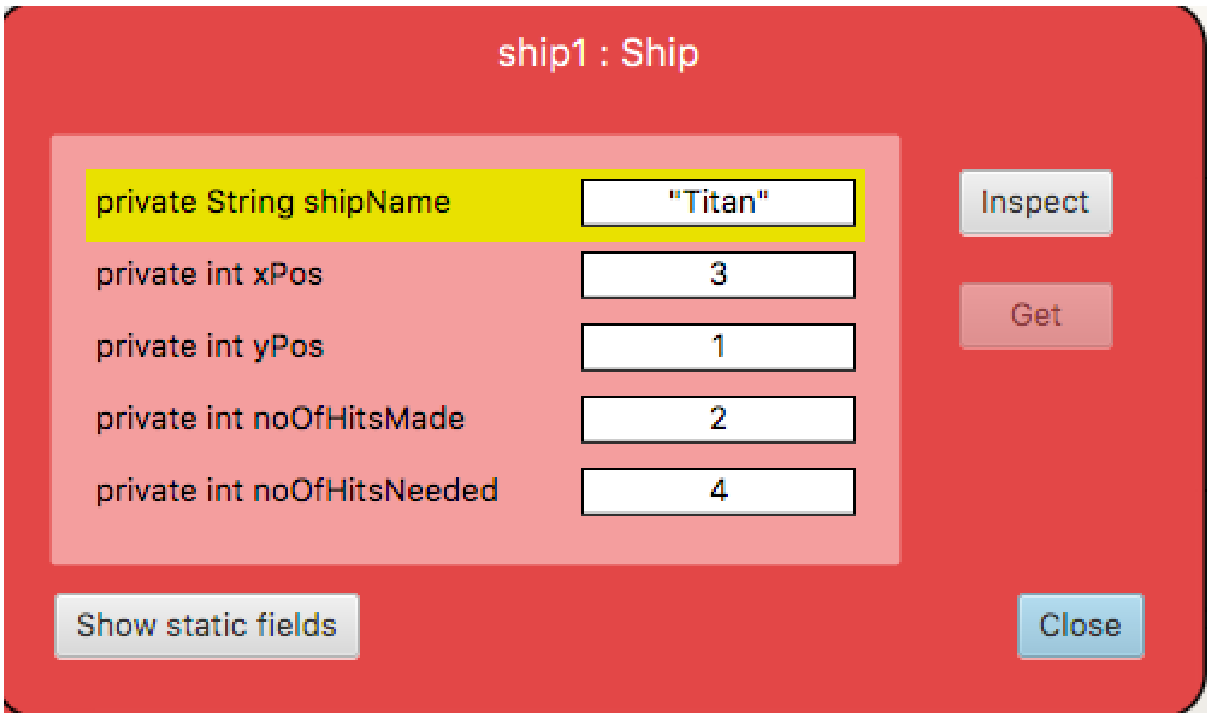
Test Data:

shipName:	“Titan”
xPos:	3
yPos:	1
noOfHitsMade:	2
noOfHitsNeeded:	4

Expected Results

shipName:	“Titan”
xPos:	3
yPos:	1
noOfHitsMade:	2
noOfHitsNeeded:	4

Actual Results


ship1 : Ship

private String shipName	"Titan"
private int xPos	3
private int yPos	1
private int noOfHitsMade	2
private int noOfHitsNeeded	4

b. Create a ship object with non-default constructor with invalid values

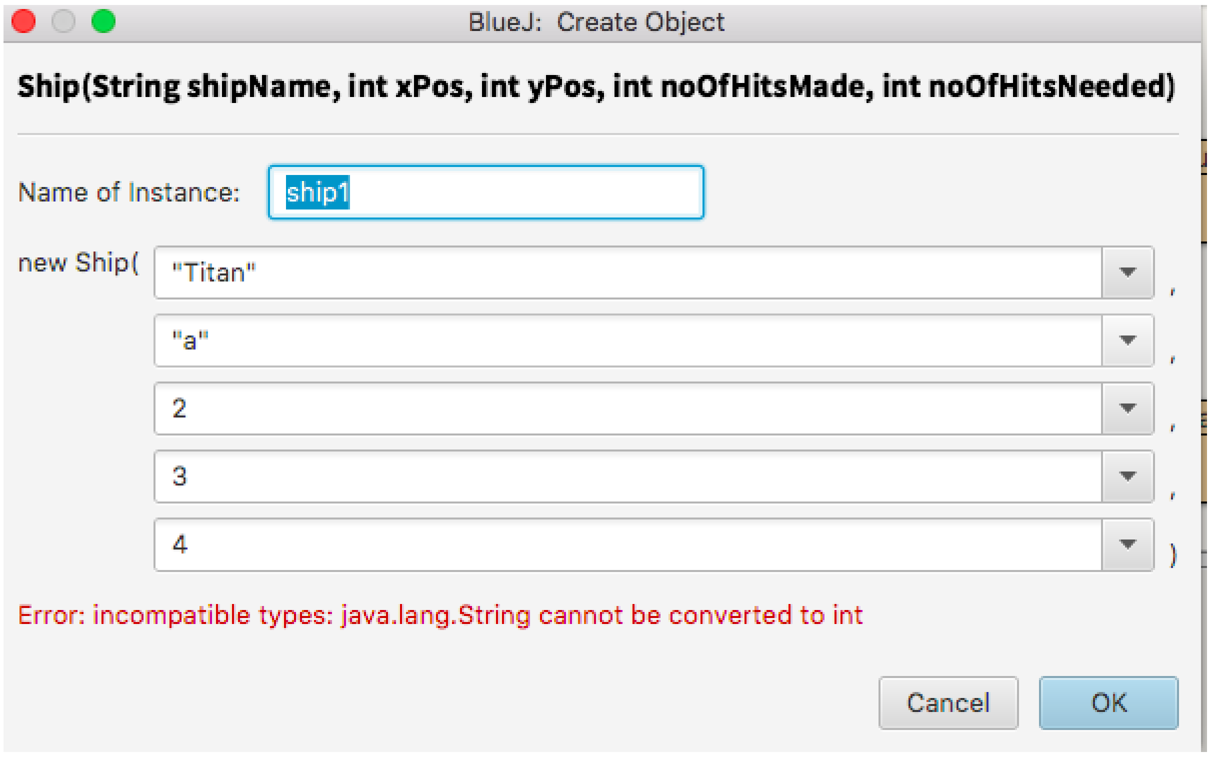
Test Data:

shipName:	"Titan"
xPos:	"a"
yPos:	2
noOfHitsMade:	3
noOfHitsNeeded:	4

Expected Results

shipName:	"Titan"
xPos:	Error, Incompatible types
yPos:	2
noOfHitsMade:	3
noOfHitsNeeded:	4

Actual results:



Ship(String shipName, int xPos, int yPos, int noOfHitsMade, int noOfHitsNeeded)

Name of Instance: ship1

```
new Ship( "Titan" ,
          "a" ,
          2 ,
          3 ,
          4 )
```

Error: incompatible types: java.lang.String cannot be converted to int

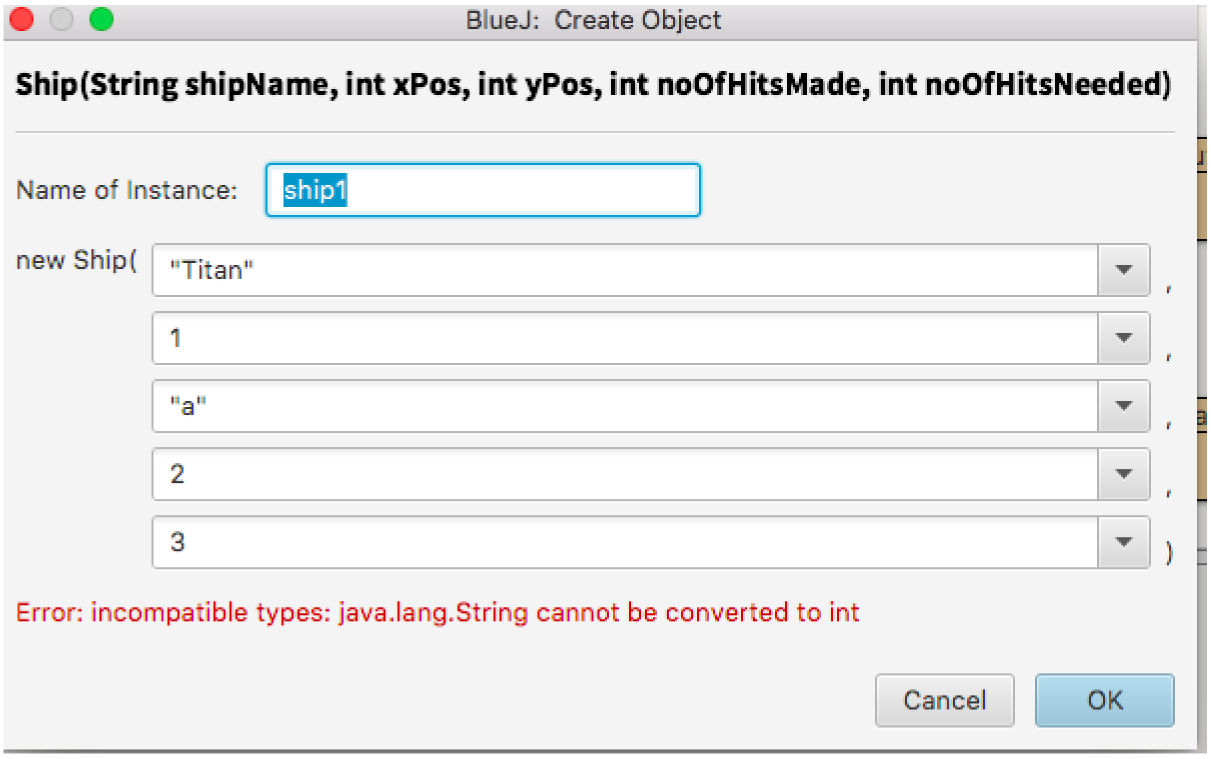
c.

Test Data:

• shipName:	“Titan”
• xPos:	1
• yPos:	“a”
• noOfHitsMade:	3
• noOfHitsNeeded:	4

Expected Results

• shipName:	“Titan”
• xPos:	1
• yPos:	Error, Incompatible types
• noOfHitsMade:	3
• noOfHitsNeeded:	4


BlueJ: Create Object

Ship(String shipName, int xPos, int yPos, int noOfHitsMade, int noOfHitsNeeded)

Name of Instance: ship1

new Ship("Titan" , 1 , "a" , 2 , 3)

Error: incompatible types: java.lang.String cannot be converted to int

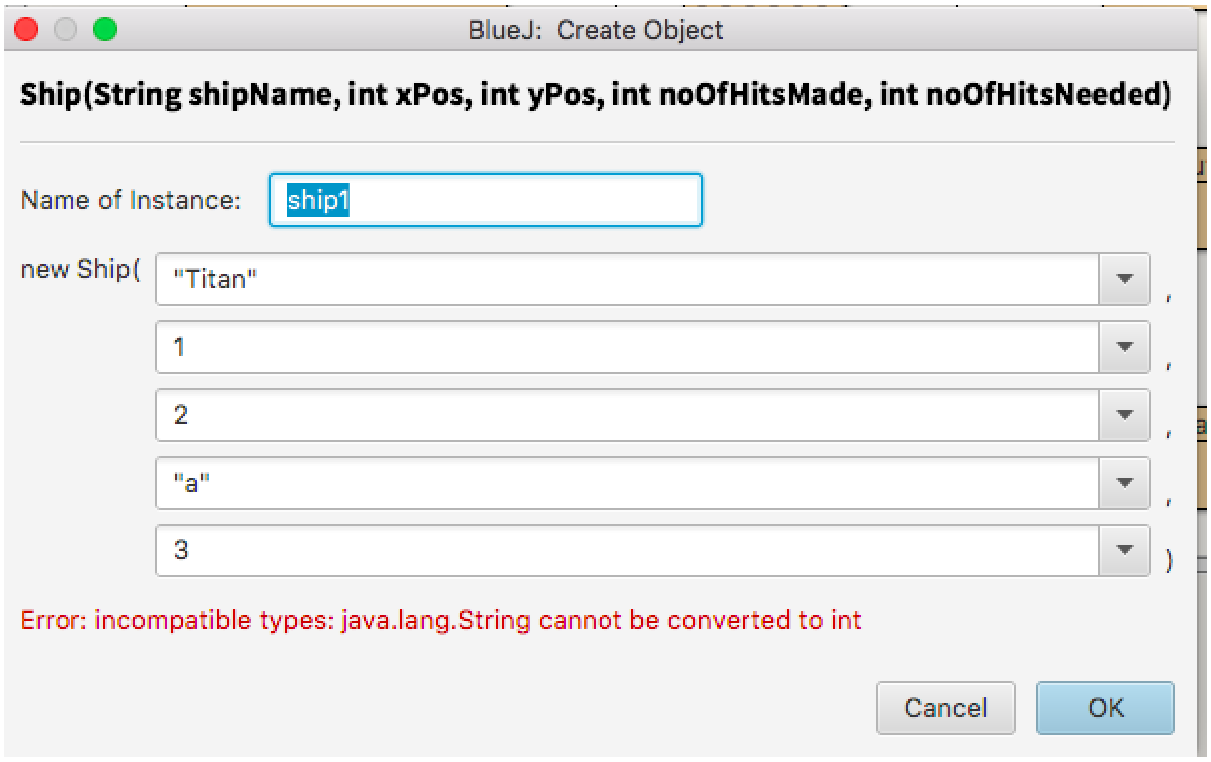
d.

Test Data:

- shipName: “Titan”
- xPos: 1
- yPos: 2
- noOfHitsMade: “a”
- noOfHitsNeeded: 4

Expected Results

- shipName: “Titan”
- xPos: 1
- yPos: 2
- noOfHitsMade: Error, Incompatible types
- noOfHitsNeeded: 4


BlueJ: Create Object

Ship(String shipName, int xPos, int yPos, int noOfHitsMade, int noOfHitsNeeded)

Name of Instance: ship1

```
new Ship( "Titan" ,
          1 ,
          2 ,
          "a" ,
          3 )
```

Error: incompatible types: java.lang.String cannot be converted to int

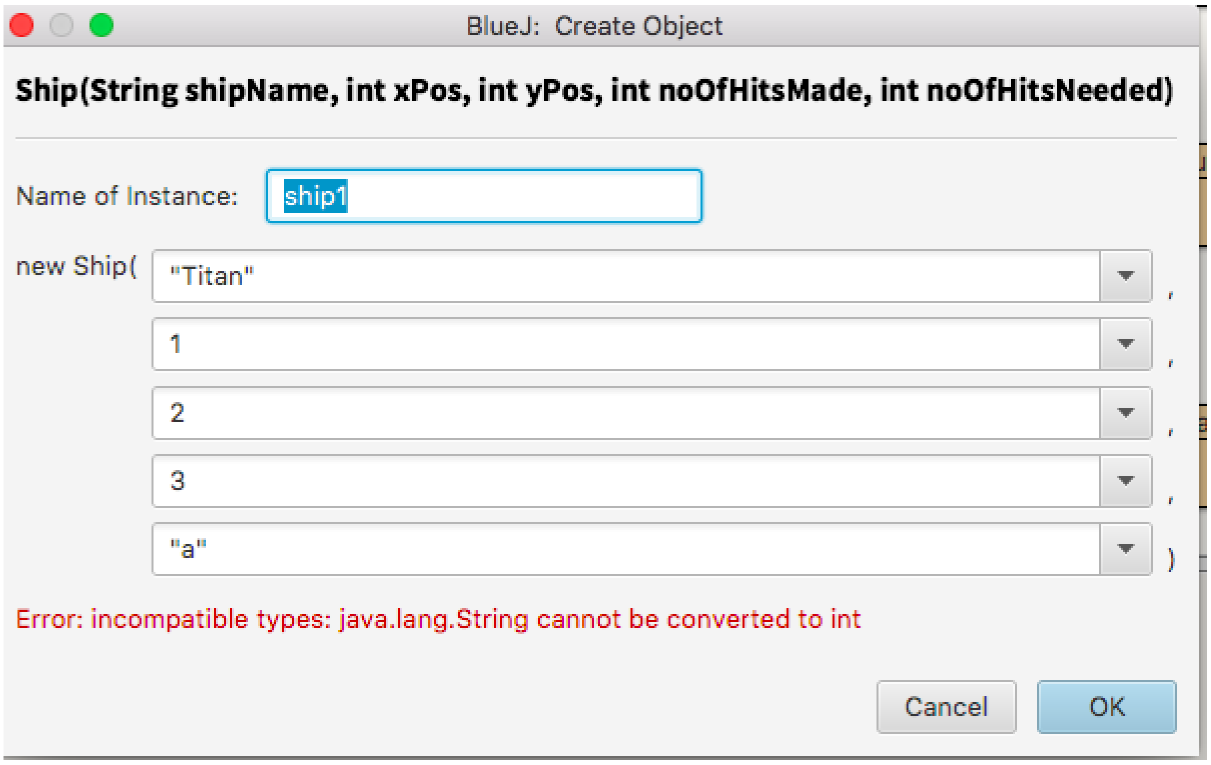
e.

Test Data:

shipName:	“Titan”
xPos:	1
yPos:	2
noOfHitsMade:	3
noOfHitsNeeded:	“a”

Expected Results

shipName:	“Titan”
xPos:	1
yPos:	2
noOfHitsMade:	3
noOfHitsNeeded:	Error, Incompatible types


BlueJ: Create Object

Ship(String shipName, int xPos, int yPos, int noOfHitsMade, int noOfHitsNeeded)

Name of Instance: ship1

```
new Ship( "Titan",
          1,
          2,
          3,
          "a" )
```

Error: incompatible types: java.lang.String cannot be converted to int

Test 3

a. getShipName()

Without setting any value

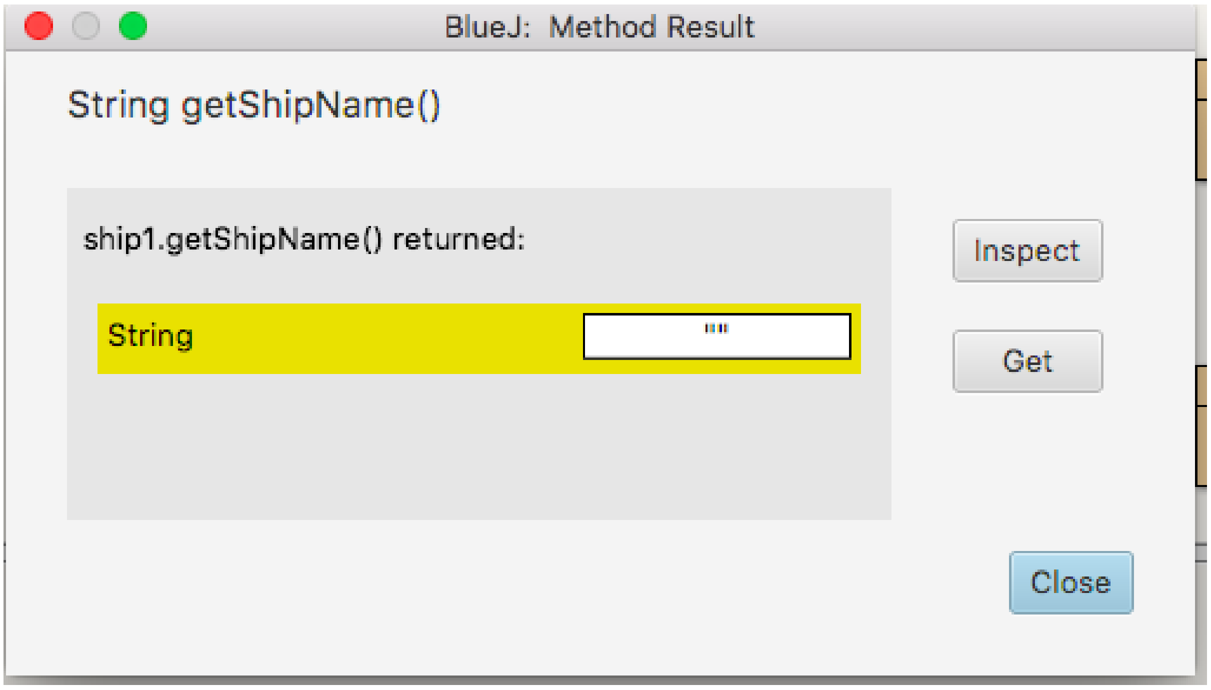
Test Data:

- No input

Expected Results:

- getShipName() = “ ”

Actual results:



BlueJ: Method Result

String getShipName()

ship1.getShipName() returned:

String ""

b. getXpos()

Without setting any value

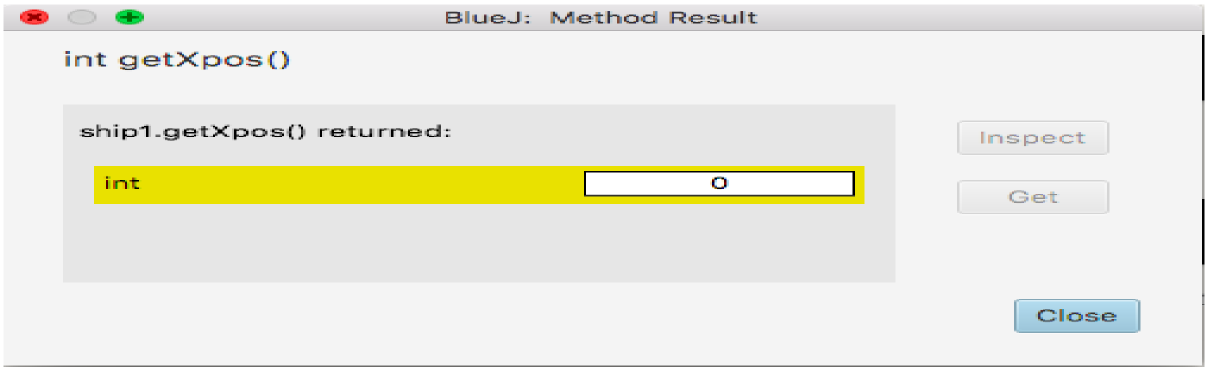
Test Data:

- No input

Expected Results:

- getXpos(): 0

Actual Results:



BlueJ: Method Result

int getXpos()

ship1.getXpos() returned:

int 0

c. getYpos()

Without setting any value

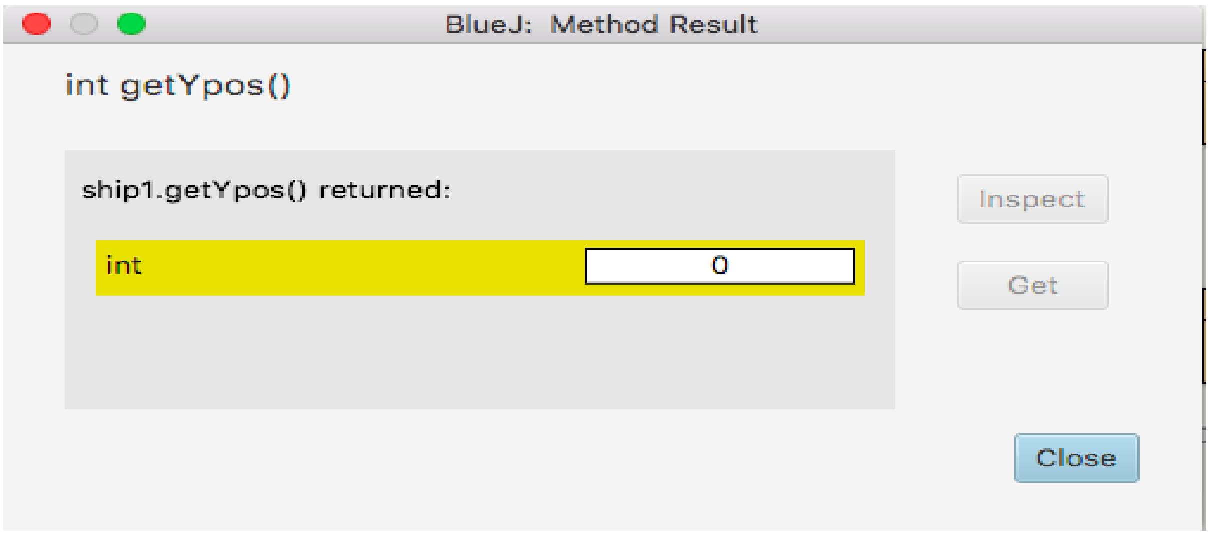
Test Data:

- No input

Expected Results:

- getYpos() : 0

Actual Results:



BlueJ: Method Result

int getYpos()

ship1.getYpos() returned:

int 0

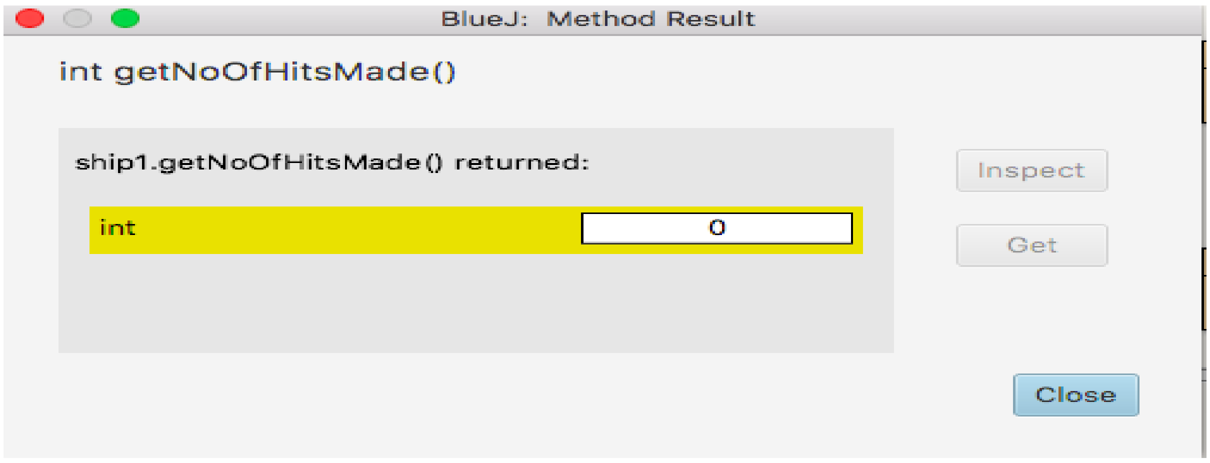
d. getNoOfHitsMade()

Without setting any value

Test Data:
- No input

Expected Results:
- 0

Actual Result:



BlueJ: Method Result

int getNoOfHitsMade()

```
ship1.getNoOfHitsMade() returned:
int                                   0
```

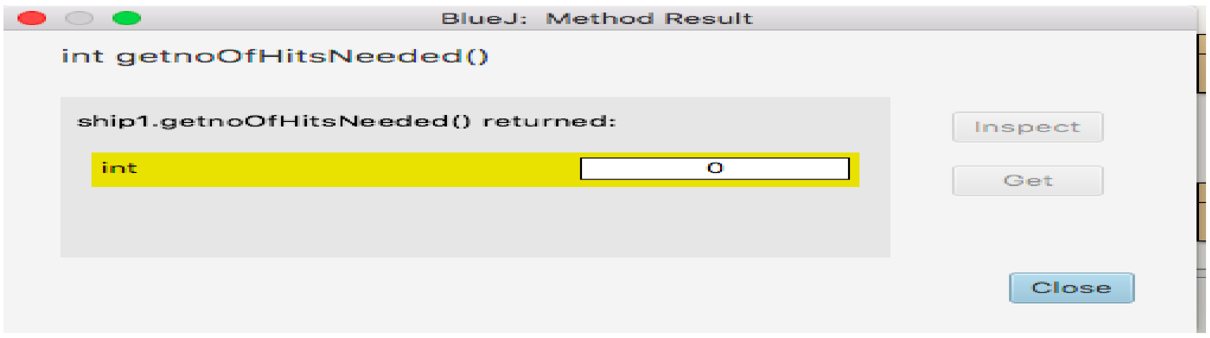
e. getnoOfHitsNeeded()

Without setting any value

Test Data:
- No input

Expected Results:
- 0

Actual Results:



BlueJ: Method Result

int getnoOfHitsNeeded()

```
ship1.getnoOfHitsNeeded() returned:
int                                   0
```

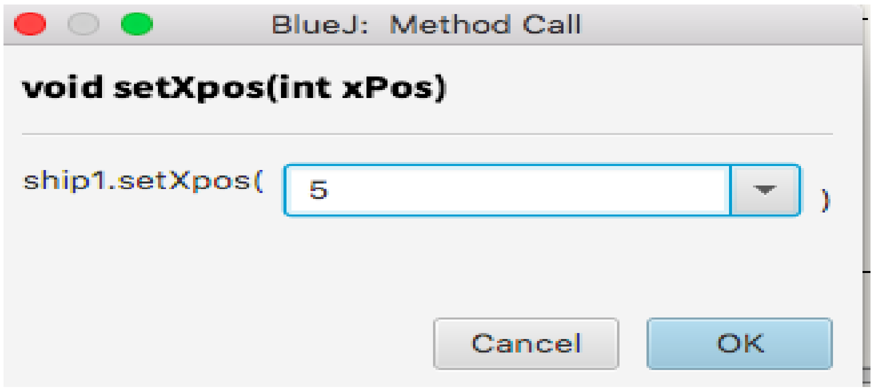
Test 4

a. setXpos()

Test Data:
- 5

Expected Results:
- 5

Actual Results



BlueJ: Method Call

void setXpos(int xPos)

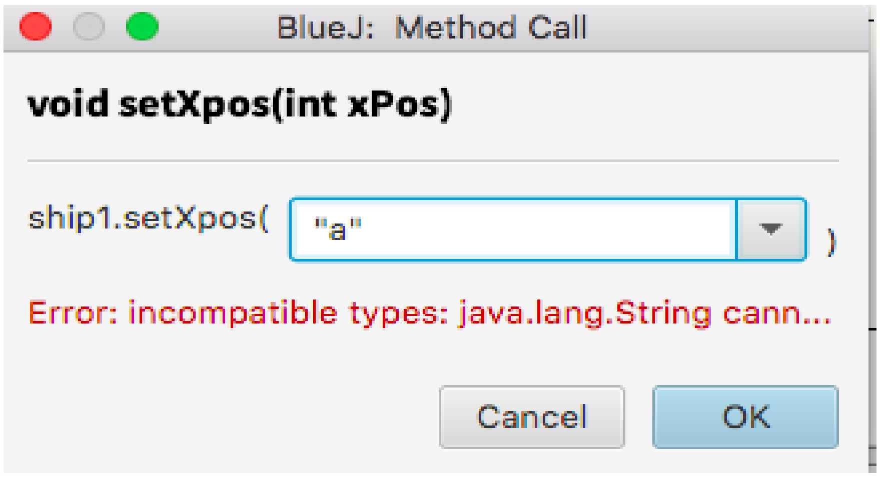
ship1.setXpos(5)

b. setXpos()

Test Data:
- “a”

Expected Results :
- Error, incompatible types

Actual Results



BlueJ: Method Call

void setXpos(int xPos)

ship1.setXpos("a")

Error: incompatible types: java.lang.String cann...

c. setYpos()

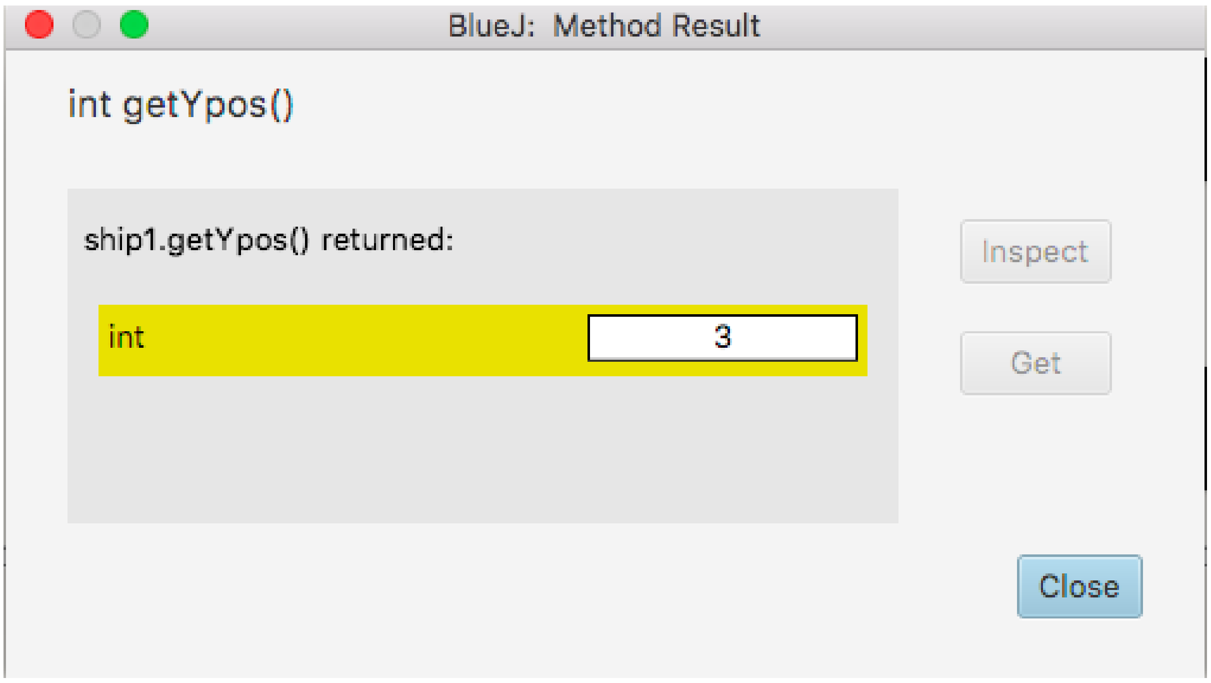
Test Data:

- 3

Expected Results:

- 3

Actual Results



BlueJ: Method Result

int getYpos()

ship1.getYpos() returned:

```
int                          3
```

d. setYpos()

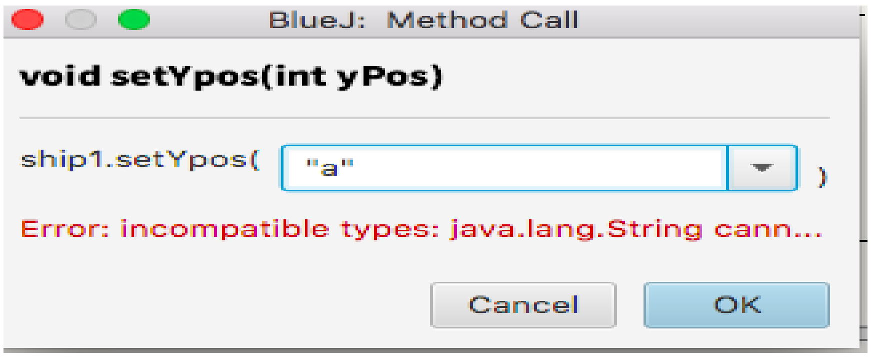
Test Data:

- “a”

Expected Results:

- Error, incompatible type

Actual Results



BlueJ: Method Call

void setYpos(int yPos)

ship1.setYpos("a")

Error: incompatible types: java.lang.String cann...

e. setNoOfHitsMade()

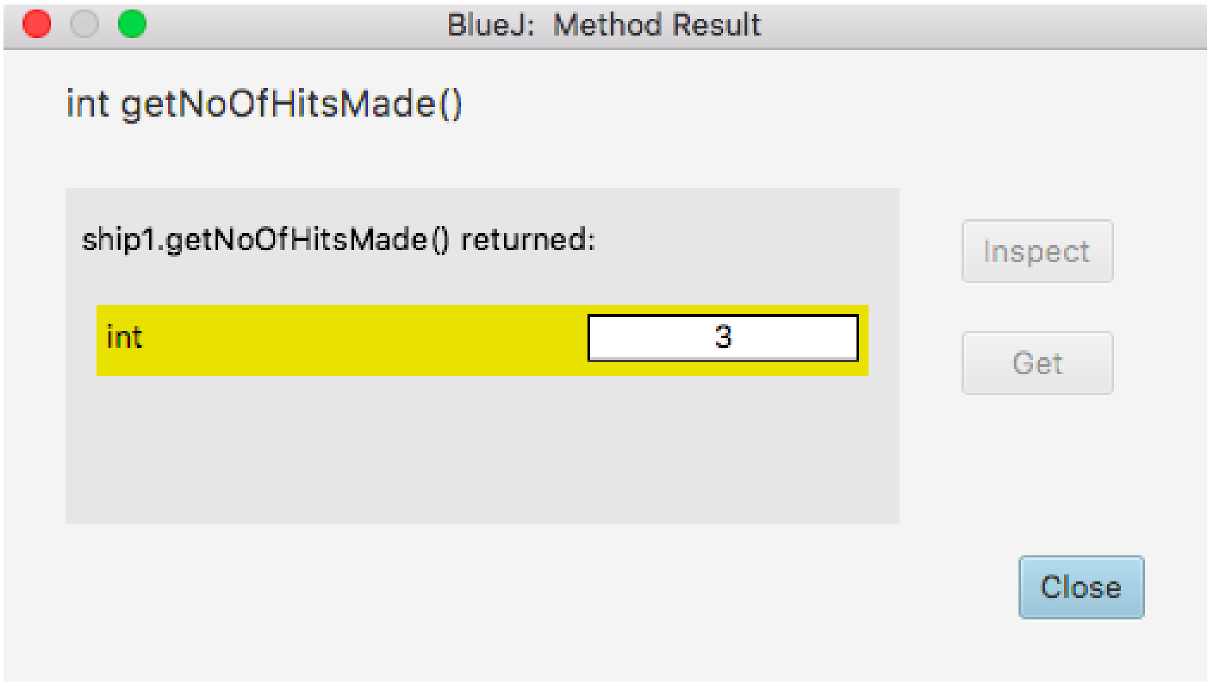
Test Data:

- 3

Expected Results:

- 3

Actual Results



BlueJ: Method Result

int getNoOfHitsMade()

ship1.getNoOfHitsMade() returned:

int 3

f. setNoOfHitsMade()

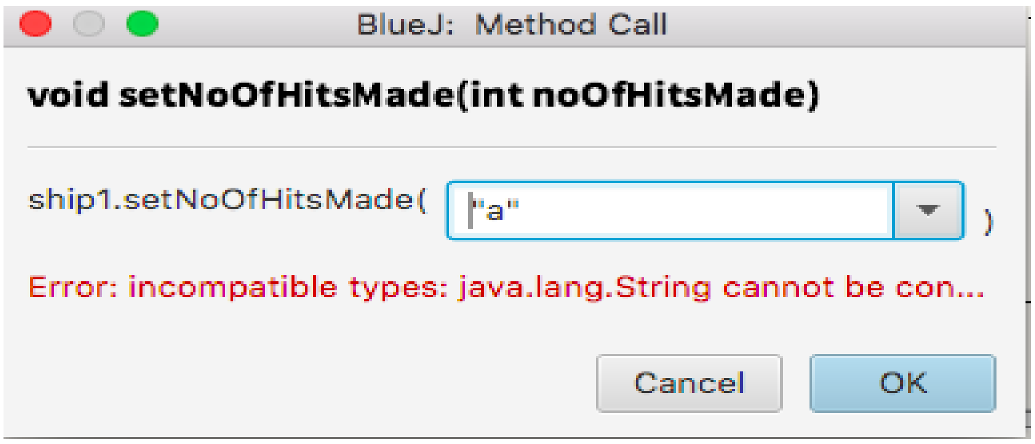
Test Data:

- “a”

Expected Results:

- Error, incompatible type

Actual Results



BlueJ: Method Call

void setNoOfHitsMade(int noOfHitsMade)

ship1.setNoOfHitsMade("a")

Error: incompatible types: java.lang.String cannot be con...

g. setnoOfHitsNeeded()

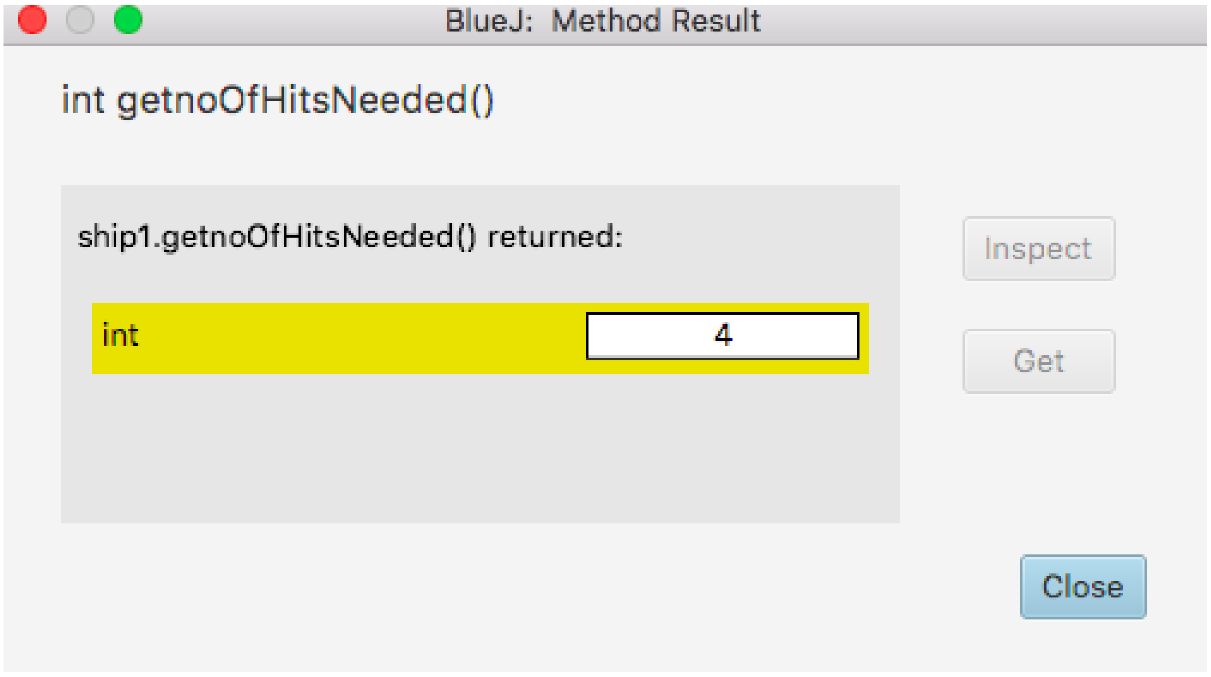
Test Data:

- 4

Expected Results:

- 4

Actual Results



int getnoOfHitsNeeded()

ship1.getnoOfHitsNeeded() returned:

int 4

h. setnoOfHitsNeeded

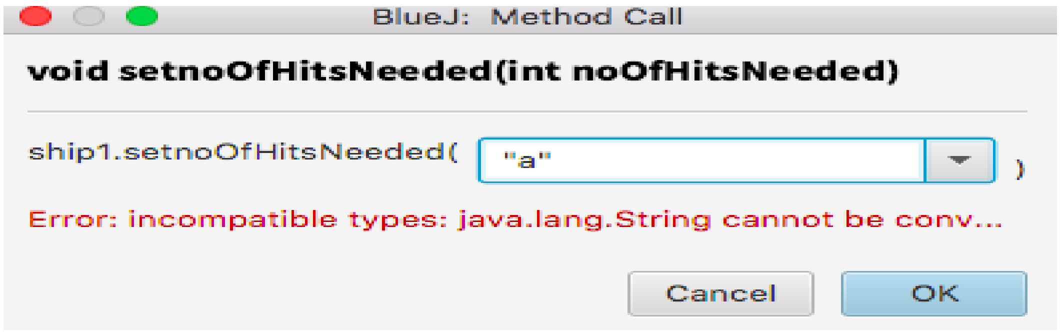
Test Data:

- “a”

Expected Results:

- Error, incompatible type

Actual Results



void setnoOfHitsNeeded(int noOfHitsNeeded)

ship1.setnoOfHitsNeeded("a")

Error: incompatible types: java.lang.String cannot be conv...

Test 5

a. display()

Created object using default constructor and then call display method.

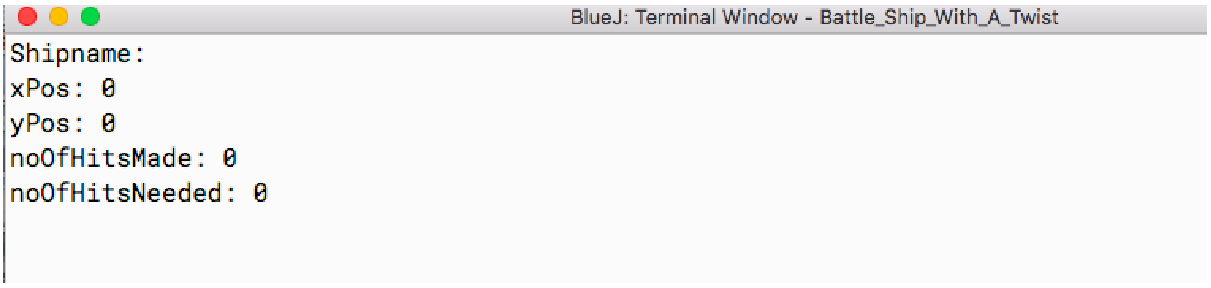
Test Data:

- No input

Expected Results:

- Shipname:
- xPos: 0
- yPos: 0
- noOfHitsMade: 0
- noOfHitsNeeded: 0

Actual Results:

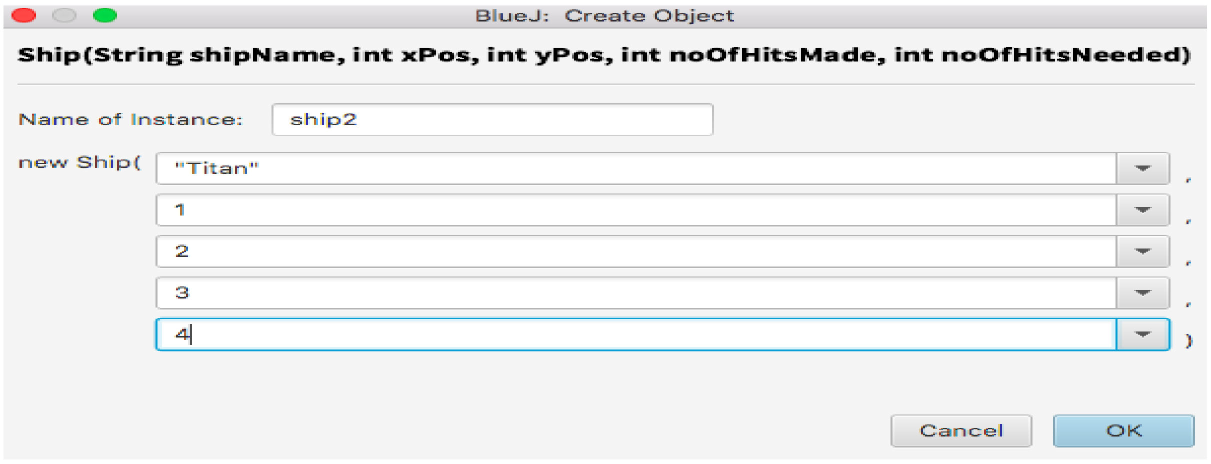


```
Shipname:
xPos: 0
yPos: 0
noOfHitsMade: 0
noOfHitsNeeded: 0
```

b. display()

Created object using non- default constructor and then call display method.

Test Data:



Ship(String shipName, int xPos, int yPos, int noOfHitsMade, int noOfHitsNeeded)

Name of Instance: ship2

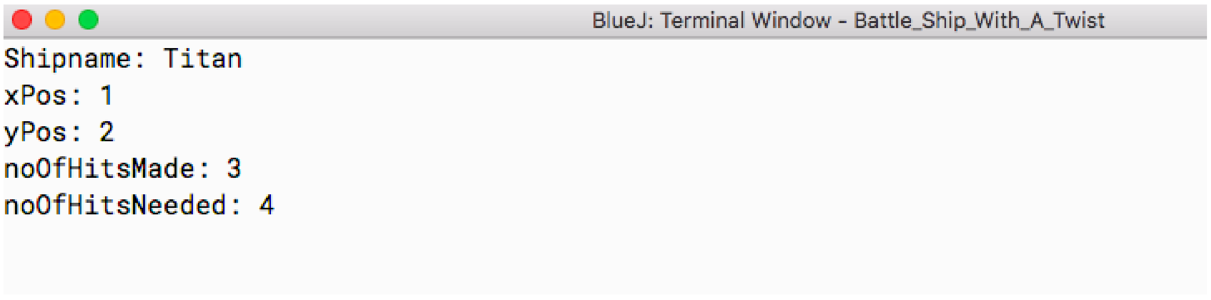
new Ship("Titan", 1, 2, 3, 4)

Expected Results:

- Shipname: Titan
- xPos: 1

- yPos: 2
- noOfHitsMade: 3
- noOfHitsNeeded: 4

Actual Results:



```
Shipname: Titan
xPos: 1
yPos: 2
noOfHitsMade: 3
noOfHitsNeeded: 4
```