

Task 1.1

```
Stack [Java Application] C:\Program Files\Java\jdk1.8.0_45\bin\javaw.exe (15 Feb 20
--- Begin Experiment 1 ---
--- Empty ---
Build up a stack of one entry:
  push 1
Inspect the stack:
  top: 1
Make the stack empty:
  pop
Test how 'top' works on the empty stack:
  An error has occurred.
--- End Experiment 1 ---
--- Begin Experiment 2 ---
--- Empty ---
Build up a stack of five entries:
  push 1
  push 2
  push 3
  push 4
  push 5
Push another entry and check if 'out of memory'-protection works:
  An error has occurred.
--- End Experiment 2 ---
--- Begin Experiment 3 ---
--- Empty ---
Build up a stack of three entries:
  push 1
  push 2
  push 3
Take these three entries away.
  top: 3
  pop
  top: 2
  pop
  top: 1
  pop
--- End Experiment 3 ---
--- Begin Experiment 4 ---
25
--- End Experiment 4 ---
--- Begin Experiment 5 ---
true
false
true
--- End Experiment 5 ---
```

Task 1.2 Part 1

java.lang.Object Stack

```
public class Stack
extends java.lang.Object

Version:
1.0
Author:
960689 - No Copyright
```

Constructor Summary

Constructors

Constructor and Description
Stack()

Method Summary

Modifier and Type	Method and Description
static void	empty()
	Empties the stack
static boolean	isEmpty()
	This method checks if the stack is empty
static boolean	isFull()
	This method checks if the stack is full
static void	main(java.lang.String[] args)
	Program tests stack methods through various experiments
static void	pop()
	Takes the top item off the stack
static void	push(int value)
	Pushes a value on top of the stack
static int	top()
	Outputs the top of the stack

Methods inherited from class java.lang.Object

equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

Part 2

```
public class Stack
extends java.lang.Object

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The screenshot shows an IDE window titled "Ptyclipse_workspace\Lab 2_3\doc\index.html". The left sidebar shows "All Classes" with "Stack" selected. The main area displays the "Method Detail" for the "Stack" class. The methods listed are: isEmpty, isFull, empty, top, push, pop, and main. Each method entry includes its signature, a brief description, and its return value or parameters.

Method Detail

isEmpty

```
public static boolean isEmpty()
```

This method checks if the stack is empty

Returns:
Boolean Representing whether it is empty or not

isFull

```
public static boolean isFull()
```

This method checks if the stack is full

Returns:
Boolean Representing whether it is full or not

empty

```
public static void empty()
```

Empties the stack

top

```
public static int top()
```

Outputs the top of the stack

Returns:
Int Value from the top of the stack

push

```
public static void push(int value)
```

Pushes a value on top of the stack

Parameters:
value - Int to place onto stack

pop

```
public static void pop()
```

Takes the top item off the stack

main

```
public static void main(java.lang.String[] args)
```

Program tests stack methods through various experiments

Parameters:
args - Command line arguments