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Class Heap

java.lang.Object
Heap

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

The Heap class

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Constructor Summary

Constructors

Constructor and Description

Heap ()
constructor.

Method Summary

Methods

Modifier and Type	Method and Description
void	clear () clears the heap completely and bring its size down to 0.
java.lang.Integer	getTop () returns the top of the heap, and removes it from the heap.
void	insert (int key) inserts a new key in the heap and heapifies it.
boolean	isEmpty () returns status of heap
static void	main (java.lang.String[] args) main: main entry point of the program.
int	pop () pop attempts to return the int at the top of the heap, and removes it from the heap.
int	size () return the size of the heap.
java.lang.String	toString () returns a string that is the representation of the contents of the heap.

Methods inherited from class java.lang.Object

`equals`, `getClass`, `hashCode`, `notify`, `notifyAll`, `wait`, `wait`, `wait`

Constructor Detail

Heap

```
public Heap()
```

constructor. Creates an empty list

Method Detail

isEmpty

```
public boolean isEmpty()
```

returns status of heap

Returns:

true if heap is empty, false otherwise

size

```
public int size()
```

return the size of the heap. 0 if empty.

Returns:

clear

```
public void clear()
```

clears the heap completely and bring its size down to 0.

toString

```
public java.lang.String toString()
```

returns a string that is the representation of the contents of the heap.

Example (heap of 8 items): [12, 5, 10, 5, 5, 5, 2, 3]

Example (empty heap): []

Overrides:

toString in class java.lang.Object

insert

```
public void insert(int key)
```

inserts a new key in the heap and heapifies it.

Parameters:

key -

pop

```
public int pop()  
    throws HeapEmptyException
```

pop attempts to return the int at the top of the heap, and removes it from the heap. An exception is raised if the heap is empty.

Returns:

the top of the heap, if successful

Throws:

HeapEmptyException - if the heap is empty before the deletion

getTop

```
public java.lang.Integer getTop()
```

returns the top of the heap, and removes it from the heap.

Returns:

the top of the heap, or null if the heap is empty.

main

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

main: main entry point of the program.

Parameters:

args -

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