
pyDS Documentation

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CHAPTER 1

Intro

pyDS is a python module consisting of various data structure and algorithm implementations.

Usage:

```
from pyDS.stack import Stack
from pyDS.usecase.stack import bracketBalanced, decimalBaseConvert

stack = Stack()

stack.push(2)
stack.push(5)

print(stack)
# 2 5

print(stack.peek())
# 5

print(stack.pop())
# 5

print(stack.peek())
# 2
```


2.1 pyDS package

2.1.1 Subpackages

pyDS.usecase package

Submodules

pyDS.usecase.stack module

`pyDS.usecase.stack.bracketBalanced` (*expression*)

Check if an expression is balanced.

An expression is balanced if all the opening brackets(i.e. '(', '{', '[') have a corresponding closing bracket(i.e. ')', '}', ']').

Args: expression (str) : The expression to be checked.

Returns: bool: True if expression is balanced. False if not balanced.

`pyDS.usecase.stack.decimalBaseConvert` (*number, base=2*)

Convert decimal numbers.

Convert the base of a decimal number to another base.

Args: number (int): The number to be converted. base (int, optional): The base to convert the number to.

Defaults to 2. Minimum value 2. Maximum value 16.

Returns: str: The string representation of the converted number.

Module contents

2.1.2 Submodules

2.1.3 pyDS.linked_list module

class pyDS.linked_list.**LinkedList**

Bases: object

An implementation of the Linked List data structure.

append (*item*)

Add item to the end of the Linked List.

Args: item: The item to be inserted.

delete (*item*)

Delete an item from the Linked List.

push (*item*)

Add item to the front of the Linked List.

Args: item: The item to be inserted.

reverse ()

Reverse the items of the Linked List.

class pyDS.linked_list.**Node** (*data*)

Bases: object

Building Block of Linked List.

2.1.4 pyDS.queue module

class pyDS.queue.**Queue**

Bases: object

An implementation of the Queue data structure.

dequeue ()

Remove item from queue.

Returns: The first item from the Queue. Raises IndexError if Queue empty.

enqueue (*item*)

Add item to Queue.

Args: item: The item to be inserted.

front ()

Return the first Queue item.

Returns: The first item from the Queue. Raises IndexError if Queue empty.

is_empty ()

Check queue is empty.

Returns: True if Queue is empty, False otherwise.

rear ()

Return the last Queue item.

Returns: The last item from the Queue. Raises IndexError if Queue empty.

2.1.5 pyDS.stack module

class pyDS.stack.Stack

Bases: object

An implementation of the stack data structure.

is_empty()

Return whether the stack is empty.

peek()

Return the top item from the Stack.

pop()

Remove an item from the Stack.

push(item)

Add an item to the stack.

2.1.6 Module contents

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