

# Programming, Data Structures And Algorithms Using Python - Week 6

...

Pratyush V. Talreja

# Contents covered in Week 6 lectures:

- Backtracking
- Global scope
- Nested functions
- Generating permutations
- Sets
- Stacks
- Queues
- Priority queue
- Heaps

# Program 1

Q. Write a program to reverse a string using Stack.

Input: abcde

Output: edcba

## Program 2

Q. Write a program to convert prefix to infix expression.

Input: + \* A B \* C D

Output : ((A \* B) + (C \* D))

# Program 3

Q. Write a program to check for balanced parentheses.

Input: [({}{})]

Output: Yes

Input: [{}]

Output: No

# Program 4

Q. Write a program to print next greater element in array.

Input: [4, 2, 5, 6]

Output [5, 5, 6, -1]

Input: [20, 1, 2, 13]

Output: [-1, 2, 13, -1]

# Program 5

Q. Write a program to check if string is a palindrome using a stack and a queue

Input: racecar

Output: Yes

**Thank you!**