

## Question - 1

SCORE: 5 points

Stack

Which of the following applications may use a stack?

- ☐ A parentheses balancing program
- ☐ Tracking of local variables at run time
- ☐ Compiler Syntax Analyzer
- ☒ All of the mentioned

## Question - 2

SCORE: 5 points

Stack, Queue, Bag, ArrayList

A data buffer is a region to temporarily store data while it is being moved from one place to another. Typically, the data is stored in a buffer as it is retrieved from an input device or just before it is sent to an output device. which of the following data structure is better in this situation?

- ☐ Stack
- ☒ Queue
- ☐ Bag
- ☐ ArrayList

## Question - 3

SCORE: 5 points

Stack

The maximum number of parentheses that appear on the stack AT ANY ONE TIME when the algorithm analyzes: `()()()()` are:

- ☐ 1
- ☐ 2
- ☒ 3
- ☐ 4

## Question - 4

SCORE: 35 points

Bags

Implement Bags Data structure. Complete the code and run unit test.