



INDIAN SCHOOL AL WADI AL KABIR

Class: XII	SUB: Computer Science	Date of Completion:
Worksheet No:6	TOPIC : Data Structures	10.06.2021

Q.I Terms to know:

Stack, Queue, Push, Pop, Overflow, Underflow, Traverse, Linear search, Binary search

Q.II Answer the following questions:

- 1.What is Data Structure? Brief in your own words.
- 2.What is Data Type?
- 3.Define a stack ,give some applications of stack in real life.
- 4.Develop a menu driven program to implement stack using a list. Program should have the following 3 options 1. Push 2. Pop 3. Display.
 - i)Write the program without using functions
 - ii)Write a program using functions Push(stack), Pop(stack) and Display(stack)
- 5.Name any 4 important applications of stack.
- 6.What is Queue? Give examples of our day-to-day life at various places where we can see queue.
7. Develop a menu driven program to implement Queue using a list. Your program should have the following 3 options 1. InsertQ 2. DeleteQ 3. DisplayQ.
 - i)Write the program without using functions
 - ii)Write a program using functions InsertQ (Queue), DeleteQ (Queue) and DisplayQ (Queue)
- 8.Name any 4 applications of Queue as a data structure.
9. Develop a Python program to search an element ELE in the list of elements in the list LIST. Use linear search method. Display appropriate message.
10. Develop a Python program to search an element ELE in the list of elements in the list LIST. Use binary search method. Display appropriate message.
- 11.Write a function in Python, insert(Arr,data) and DeleteQ(Arr) for performing insertion and deletion operations in queue. Arr is the list used for implementing queue and data is the value to be inserted.
- 12.Write push(Names)and pop(names) methods in python to add names and remove names considering them to act as PUSH and POP operations in stack.

NOTE: Q.4,Q.7,Q.9 and Q.10 will be written in your record book.