JSS Mahavidyapeetha JSS Science And Technology University (Established Under JSS Science and Technology University Act No. 43 of 2013) (Formerly Known as SJCE)



Faculty: Prof. Sheela N

Class & Section: III Sem.

Semester Starting:

Semester Ending on:

Subject with Code: Data Structure Lab(CS36L)

Lab	Programs to be covered
Session No.	Trograms to be covered
1.	Define a structure called Time containing 3 integer
	members(hour,minute,second). Develop a menu driven program to
	perform the following by writing separate function for each operation. a)
	To read time b) To display time c)To Update time d) Add two times by
	writing Add(T1,T2) which returns the new Time.
	Update function increments the time by one second and returns the new time(if the increment results in 60 seconds, then the second member is set to zero and minute member is incremented by one. Then , if the result is 60 minutes, the minute member is set to zero and the hour member is incremented by one. Finally when the hour becomes 24, it is set to zero)
	Note: Illustrate the use of pointer to a structure variable and passing and returning of structure type to and from the function(both by value and reference).
	Define a structure called Student with the members: name, reg_no, marks in 3 tests and average_ marks.
	Develop a menu driven program to perform the following by writing separate function for each operation: a)read information of N students b) display students information c) to calculate the average of best two test marks of
	each student.
	Note: Illustrate the use of pointer to an array of structure and allocate memory dynamically using malloc() /calloc()/realloc().
	 Develop a menu driven program to implement various operations on array storage representation with static and dynamic memory allocation.

2	Develop a menu driven program to implement singly linked list with various
	operations such as
	i) Insertion and Deletion at front/rear
	ii) Insertion and Deletion at the specified position
	iii) Delete by Key
	iv) Search by key
	v) Create an ordered list
	vi) Reverse a list
	vii) Creating a copy of the list
3	Develop a menu driven program to implement Circular singly linked list with
	various operations such as
	i) Insertion and Deletion at front/rear
	ii) Insertion and Deletion at the specified position
	iii) Delete by Key
	iv) Search by key
	v) Create an ordered list
	vi) Reverse a list
	vii) Creating a copy of the list
4	Develop a menu driven program to implement Double linked list with various
	operations such as
	i) Insertion and Deletion at front/rear
	ii) Insertion and Deletion at the specified position
	iii) Delete by Key
	iv) Search by key
	v) Create an ordered list
	vi) Reverse a list
ĺ	vii) Creating a copy of the list

5	7. Develop a menu driven program to implement Circular Double linked list with
	Header node to perform various operations such as
	i) Insertion and Deletion at front/rear
	ii) Insertion and Deletion at the specified position
	iii) Delete by Key
	iv) Search by key
	v) Create an ordered list
	vi) Reverse a list
	vii) Creating a copy of the list
6	8. Develop a menu driven program to implement Stack with static and dynamic
	memory allocation mechanism using array storage representation.(Represent
	Stack using structure) 9. To convert infix expression to postfix expression. b) To convert infix expression
	to prefix
	10. To evaluate the postfix expression.
7	Develop a menu driven program s
	To implement ordinary Queue with static and dynamic memory allocation
	mechanism using array storage representation.(Represent Queue using structure)
	7. To implement Circular Queue with static and dynamic memory allocation
	mechanism using array storage representation.(Represent Queue using structure)
	8. To implement Double Ended Queue with static and dynamic memory allocation
	mechanism using array storage representation.(Represent Queue using structure)
	To implement Priority Queue with static and dynamic memory allocation
	mechanism using array storage representation.(Represent Queue using structure)
8	10. Develop a menu driven program to implement binary search tree and traversal
	techniques.
	11. Develop a menu driven program to implement Graph traversal techniques.
9	Lab Test

Signature of staff

Signature of H.O.D