PUNE INSTITUTE OF COMPUTER TECHNOLOGY

DHANKAWADI, PUNE – 43.

SCHEDULE OF LAB EXPERIMENTS

ACADEMIC YEAR: 2018-2019

DEPARTMENT: COMPUTER ENGINEERING   Date : 17/12/2018

CLASS: T.E.   SEMESTER: II

SUBJECT: System Programming &Operating System Lab

LAB EXP.NO	PROBLEM STATEMENT	COMPLETION DEADLINE
Group A	Based on system programming	
1.	Design suitable data structures and implement pass-I of a two-pass assembler for pseudo-machine in Java using object oriented feature. Implementation should consist of a few instructions from each category and few assembler directives.	Last week of December 2018
2.	Implement Pass-II of two pass assembler for pseudo-machine in Java using object oriented features. The output of assignment-1 (intermediate file and symbol table) should be input for this assignment.	First week of January, 2019
3.	Design suitable data structures and implement pass-I of a two-pass macro-processor using OOP features in Java	Second week of January, 2019
4	Write a Java program for pass-II of a two-pass macro-processor. The output of assignment-3 (MNT, MDT and file without any macro definitions) should be input for this assignment.	Fourth week of February, 2019
Group B	Based on LEX and YACC	

I	Write a program to create Dynamic Link Library for any mathematical operation and write an application program to test it. (Java Native Interface / Use VB or VC++).	First week of February, 2019
2.	Write a program using Lex specifications to implement lexical analysis phase of compiler to generate tokens of subset of Java program.	Second week of February, 2019
3	Write a program using Lex specifications to implement lexical analysis phase of compiler to count no. of words, lines and characters of given input file.	Third week of February, 2019
4	Write a program using YACC specifications to implement syntax analysis phase of compiler to validate type and syntax of variable declaration in Java.	Fourth week of March, 2019
5	Write a program using YACC specifications to implement syntax analysis phase of compiler to recognize simple and compound sentences given in input file.	First week of March, 2019
Group C	Based on process management (OS)	
1.	Write a Java program (using OOP features) to implement following scheduling algorithms: FCFS , SJF (Preemptive), Priority (Non-Preemptive) and Round Robin (Preemptive)	Second week of March, 2019
2.	Write a Java program to implement Banker's Algorithm	Fourth week of March, 2019
3.	Implement UNIX system calls like ps, fork, join, exec family, and wait for process management (use shell script/ Java/ C programming).	Fifth week of March, 2019

4.	Study assignment on process scheduling algorithms in Android and Tizen.	Fifth week of March, 2019
Group D	**Based on memory management (OS)**	
1.	Write a Java Program (using OOP features) to implement paging simulation using 1. Least Recently Used (LRU) 2. Optimal algorithm	First week of April, 2019

Subject Coordinator

(Prof. S. P. Shintre)

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