

B. M. S. Institute of Technology, Yelahanka, Bangalore - 064

Department of Computer Science & Engineering

ACADEMIC YEAR 2016-2017

A brief report on student centric activity

Name of the activity/Topic	SIV-VM
Class/Semester	Class 5th sem A SECTION
Resource Person/s	-----
Relevance of the topic	System Software
Faculty member in-charge	Mrs Chethana C
Date and Time	04/11/2016
Venue	BSN CR 403
Description (Separate Annexure may be enclosed, if the description is exceeding) Photo to be attached separately	
<p>An attempt to make an interpreter shell to interpret the SIC concept programs. This project implemented using infinite while loop in which commands are read from the user. To come out of the loop the true condition have to explicitly changed to false if the shell intercept a exit command from the user.</p> <p>The basic functionalities which are there in SIC are implemented using an associative array which stores all the instruction with it function implementation.</p> <p>To store the user defined variables an associative array is made which is used as a stack. Whenever user defines a new variable it added on the top of it with all the parameter like its type, length (In case of arrays), size, value. Same way the Register array is made to simulate to presence of the registers which are accessible to the CPU according to the concept.</p> <p>Similarly Flags are defined using an associative array to keep track of the status of CPU and other things. Little custom functionality are added like show Registers status, help are added to facilitate the user to get a more in depth insight of the state of the system at any point of time.</p> <p>Regular expressions are extensively used in this project to match the user input with the instructions commands and the variables.</p> <p>Current version of the SIC-VM able to execute following instructions</p> <ul style="list-style-type: none">• <u>ADD : $A < - (A) + (m..m+2)$</u>• <u>ADDF : $F < - (F) + (m..m+5)$</u>• <u>ADDR : $r2 < - (r2) + (r1)$</u>• <u>DIV : $A < - (A) / (m..m+2)$</u>• <u>DIVF : $F < - (F) / (m..m+5)$</u>• <u>DIVR : $r2 < - (r2) / (r1)$</u>• <u>LDA : $A < - (m..m+2)$</u>• <u>MUL : $A < - (A) * (m..m+2)$</u>• <u>MULF : $F < - (F) * (m..m+5)$</u>• <u>MULR : $(r2) < - (r2) * (r1)$</u>• <u>SUB : $A < - (A) - (m..m+2)$</u>• <u>SUBF : $A < - (A) - (m..m+5)$</u>• <u>SUBR : $(r2) < - (r2) - (r1)$</u> <p>Currently this is under heavy development.</p> <p>It can be cloned form it source on github. Then after Installation of hhvm it can be run directly from the root folder by executing</p> <pre>\$ hhvm shell.php</pre>	
No. of students attended	30
Learning outcome	Students will improve in analyzing and applying the concepts according to the required context of the problems,

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	communication skills etc.,
POs achieved/mapped	PO3,PO10,PO11
Total Expenditure in Rs.	NIL
	
	

Faculty in-charge
(Mrs. Chethana C)

HOD

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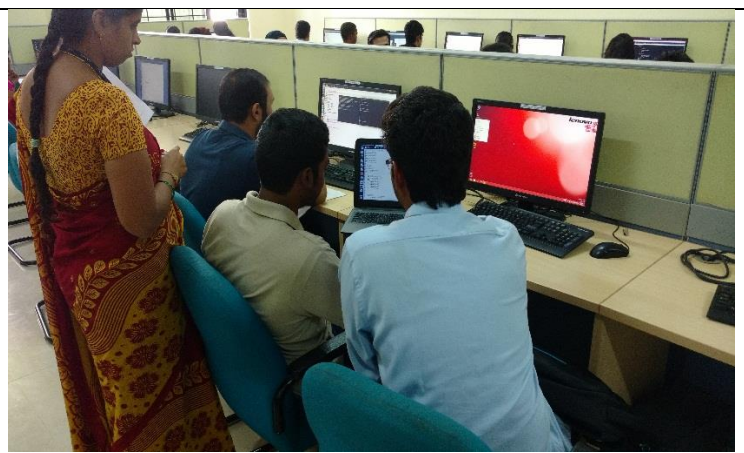
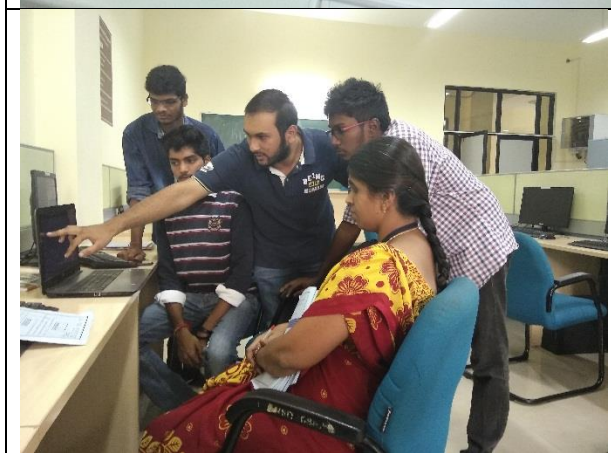
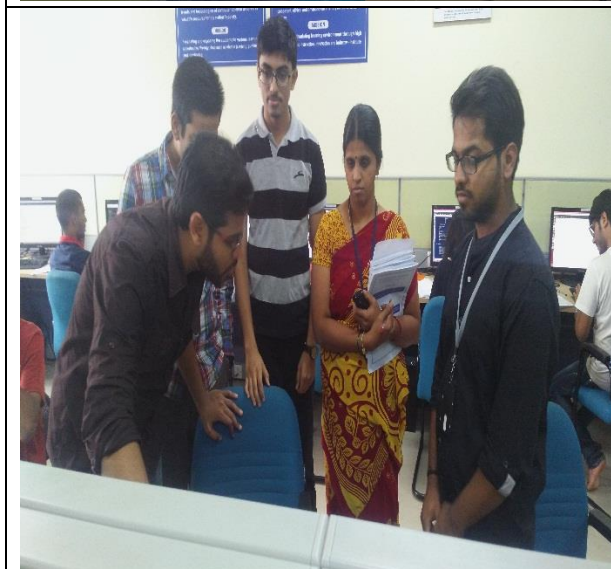
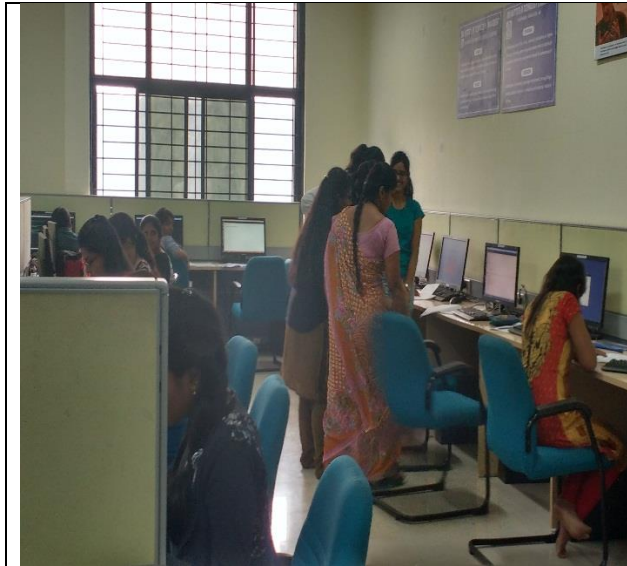
A brief report on student centric activity

Name of the activity/Topic	Lex Using C Implementation
Class/Semester	Class 5th sem A SECTION
Resource Person/s	-----
Relevance of the topic	System Software
Faculty member in-charge	Mrs Chethana C
Date and Time	23/11/2016 and 25/11/2016 11:30 AM to 1.30 PM
Venue	BSN CR 403
Description (Separate Annexure may be enclosed, if the description is exceeding) Photo to be attached separately	
<p>Problem statement: Program to accept and recognize strings using the grammar $anbn$. (Where $n > 0$).</p> <p>The following program is a C implementation of a lex and yacc program. This program accepts strings and checks to see if it matches the grammar $anbn$. The program first sends the input string to the <code>yyparse()</code> function. In the <code>yyparse()</code> function, first we check to see if the string is of even length (since $N(a) = N(b)$). If false, we call an error function. If true, we proceed to store the middle position in a variable <code>mid</code>. Then, using tokens generated by the function <code>yylex()</code>, we test the first half of the string for 'a' and the second half of the string for 'b'.</p> <p>If the conditions are satisfied (i.e. final state <code>q1</code>), then it gives output message "Valid string". If a condition gives false at any step (i.e. final state = <code>q2</code>), then it calls the error function.</p>	
<p>Problem Statement: Write a lexer and parser in c which checks for valid variable</p> <p>It is a lexer in C ... A lexer is a software program that performs lexical analysis. Lexical analysis is the process of separating a stream of characters into different words, which in computer science we call 'tokens' ...</p>	
<p>Problem Statement: A lexer in C suitable for a simple command language that handles commands, numbers, strings, and new lines, ignoring white space and comment or any other example: The given lexer recognizes if given input is comment, command, text or number and in the program we are considering 3 states <code>Q0</code>, <code>Q1</code> and <code>Q2</code>. If the given input is starting with alphabet followed by alphabet or a number ... then it will go to <code>Q1</code> state.. If the input is starting with a number it will go to <code>Q2</code> state by ignoring all the spaces blanks and tabs. If it goes to <code>Q1</code> state by accepting all the conditions then it is a "valid input" otherwise it prints "Invalid input".</p>	
No. of students attended	Full Class
Learning outcome	Students will improve in analyzing and applying the concepts according to the required context of the problems, communication skills etc.,
POs achieved/mapped	PO3, PO10, PO11
Total Expenditure in Rs.	NIL

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