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Note : Remove "Table of Content" before including in CP Book

17ISL68: FILE STRUCTURES LABORATORY

A. LABORATORY INFORMATION

1. Lab Overview

Degree:	B E	*Program:*	IS
Year / Semester :	3/ 6	*Academic Year:*	2018-19
Course Title:	FILE STRUCTURES LABORATORY	*Course Code:*	17ISL68
Credit / L-T-P:	3/ 01+02	*SEE Duration:*	3Hrs
Total Contact Hours:	40 Hrs	*SEE Marks:*	60 Marks
CIA Marks:	40	*Assignment*	-
Course Plan Author:	Tejashwini N	*Sign*	Dt :
Checked By:	Manjula K	*Sign*	Dt :

2. Lab Content

Unit	Title of the Experiments	Lab Hours	Concept	Blooms Level
1.	Write a C++ program to read series of names, one per line, from standard input and write these names spelled in reverse order to	3		

	the standard output using I/O redirection and pipes. Repeat the exercise using an input file specified by the user instead of the standard input and using an output file specified by the user instead of the standard output.			
2.	Write a C++ program to read and write student objects with fixed length records and the fields delimited by "|". Implement pack ( ), unpack ( ), modify ( ) and search ( ) methods.	3		
3.	Write a C++ program to read and write student objects with Variable - Length records using any suitable record structure. Implement pack ( ), unpack ( ), modify ( ) and search ( ) methods.	3		
4	Write a C++ program to write student objects with Variable - Length records using any suitable record structure and to read from this file a student record using RRN.	3		L4 Analyze
5	Write a C++ program to implement simple index on primary key for a file of student objects. Implement add ( ), search ( ), delete ( ) using the index.	3		L4 Analyze
6	Write a C++ program to implement index on secondary key, the name, for a file of student objects. Implement add ( ), search ( ), delete ( ) using the secondary index.	3		L3 Apply
7	Write a C++ program to read two lists of names and then match the names in the two lists using Co Sequential Match based on a single loop. Output the names common to both the lists.	3		L3 Apply
8	Write a C++ program to read k Lists of names and merge them using k-way merge algorithm with k = 8.	3		L3 Apply
	Part – B			
09	Student should develop mini Project on the topics mentioned below or similar applications Document processing, transaction management, indexing and hashing, buffer management, configuration management. Not limited to these.	3		L6

3. Lab Material

Unit	Details	Available
1	Text books	
	Michael J. Folk, Bill Zoellick, Greg Riccardi: File Structures-An Object Oriented Approach with C++, 3rd Edition, Pearson Education, 1998	In Lib
		In Lib
2	Reference books	
a.	K.R. Venugopal, K.G. Srinivas, P.M. Krishnaraj: File Structures Using C++, Tata McGraw-Hill, 2008.	In Lib
b.	Scot Robert Ladd: C++ Components and Algorithms, BPB Publications, 1993.	In Lib
c.	Raghu Ramakrishan and Johannes Gehrke: Database Management Systems, 3rd Edition, McGraw Hill, 2003.	In Lib

4. Lab Prerequisites:

-	-	Base Course:		-	-
SNo	Course Code	Course Name	Topic / Description	Sem	Remarks
1	17CS32	Data Structures and Applications	Tree, B Tree, B+ Trees	3	Required for Experiment 6,7,8,9

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2	15CS45	Object Oriented Concepts	A Review of structures, Procedure–Oriented Programming system, Object Oriented Programming System, Console I/O ,variables and reference variables, Function Prototyping, Function Overloading. Class and Objects Introduction, member functions and data, objects and functions, objects and arrays,	4	Required for Experiment 1,2,3,4

Note: If prerequisites are not taught earlier, GAP in curriculum needs to be addressed. Include in Remarks and implement in B.5.

5. General Instructions

SNo	Instructions	Remarks
1	Observation book and Lab record are compulsory.	
2	Students should report to the concerned lab as per the time table.	
3	After completion of the program, certification of the concerned staff in-charge in the observation book is necessary.	
4	Student should bring a notebook of 100 pages and should enter the readings /observations into the notebook while performing the experiment.	
5	The record of observations along with the detailed experimental procedure of the experiment in the Immediate last session should be submitted and certified staff member in-charge.	
6	Should attempt all problems / assignments given in the list session wise.	
7	It is responsibility to create a separate directory to store all the programs, so that nobody else can read or copy.	
8	When the experiment is completed, student should save the experiment with relevant filenames and exit from the Turbo C IDE compiler.	
9	Any damage of the equipment of the computer system will be viewed seriously either by putting penalty or by dismissing the total group of students from the lab for the semester/year	
10	Completed lab assignments should be submitted in the form of a Lab Record in which you have to write the algorithm, Flowchart, program code along with comments and output for various inputs given	

6. Lab Specific Instructions

SNo	Specific Instructions	Remarks
1	Start windows Operating system	
2	Open the Turbo C text editor screen in Windows	
3	Select new file	
4	Write the program	
5	Save the program with ". c" extension	
6	Compile the program using Alt + F9	
7	Press Ctrl + F9 to Run to execute the Program	
8	Press Alt+F5 to view the output of the program at the output screen	

B. OBE PARAMETERS

1. Lab / Course Outcomes

#	COs	Teach. Hours	Concept	Instr Method	Assessment Method	Blooms' Level
1	Understanding the basic file operations using c/c++	3	File operations	Demonstrate	Viva & presentation	L2 Understanding
2	Analyze fixed and variable length records	6	Record	Demon-	Viva & pre-	L4

	in the file		Structure	strate	sentation	Analyzing
3	Compare the time taken in index based accessing by known index no	3	Relative Record number	Demonstrate	Viva & presentation	L5 Evaluate
4	Comparing single and multiple index based accessing of record	6	Primary and secondary key	Demonstrate	Viva & presentation	L5 Evaluate
5	Analyzing the operations on multiple files	6	Multiple file operations	Demonstrate	Viva & presentation	L4 Analyzing
6	Design and Develop the Project by menu based or graphical	16	Operations on files with menu based or graphical based	Demonstrate	Viva & presentation	L6 Creating
-	**Total**	**40**	-	-	-	-

Note: Identify a max of 2 Concepts per unit. Write 1 CO per concept.

2. Lab Applications

SNo	Application Area	CO	Level
1	Student Data Base	1	L2
2	Student Data Base	2	L4
3	Bank database	3	L5
4	Library Management	4	L5
5	Reservation System	5	L4
6	Student database, medical data base, reservation System, library management	6	L6

Note: Write 1 or 2 applications per CO.

3. Articulation Matrix

(CO – PO MAPPING)

-	Course Outcomes	Program Outcomes												
#	COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Level
15ISL68.1	Understanding the basic file operations using c/c++				-		-	-	-	-	-	-		L2
15ISL68.2	Analyze fixed and variable length records in the file				-		-	-	-	-	-	-		L4
15ISL68.3	Compare the time taken in index based accessing by known index no				-		-	-	-	-	-	-		L5
15ISL68.4	Comparing single and multiple index based accessing of record				-		-	-	-	-	-	-		L5
15ISL68.5	Analyzing the operations on multiple files				-		-	-	-	-	-	-		L4
15ISL68.6	Design and Develop the Project by menu based or graphical				-		-	-	-	-	-	-		L6

Note: Mention the mapping strength as 1, 2, or 3

4. Mapping Justification

Mapping		Justification	Mapping Level
CO	**PO**	-	-

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CO1	PO1	Knowledge of Object Oriented Concepts is required to solve complex problems.	L6
	PO2	analyzing the problem requires the knowledge of Object Oriented Concepts.	L4
	PO3	design and develop a solution for a problem	L6
	PO4	No investigation & interpretation content. No mapping. Learning is at the basic level. Attainment will be Zero, if mapping done.	-
	PO5	requires the knowledge of Eclipse juno for program execution	L6
	PO6	No social, cultural issues. No mapping	-
	PO7	No impact on Environment and sustainability. No mapping	-
	PO8	No team work or lead for the ethical work. No mapping	-
	PO9	No team work or lead for the ethical work. No mapping	-
	PO10	No usage for communication. No mapping.	-
	PO11	No project management and finance. No mapping.	-
	PO12	Lifelong learning is required based on technology changes	L4
CO2	PO1	Knowledge of Divide and conquer concept is required to sort the elements.	L6
	PO2	analyzing the problem requires the knowledge of Time Complexity	L4
	PO3	design and develop a solution for a complex problem	L6
	PO4	No investigation & interpretation content. No mapping. Learning is at the basic level. Attainment will be Zero, if mapping done.	-
	PO5	requires the knowledge of Eclipse juno for program execution	L6
	PO6	No social, cultural issues. No mapping	-
	PO7	No impact on Environment and sustainability. No mapping	-
	PO8	No team work or lead for the ethical work. No mapping	-
	PO9	No team work or lead for the ethical work. No mapping	-
	PO10	No usage for communication. No mapping.	-
	PO11	No project management and finance. No mapping.	-
	PO12	Lifelong learning is required based on technology changes	L4
CO3	PO1	Knowledge of Dynamic Programming is required to solve complex problems	L6
	PO2	analyzing the problem requires the knowledge of Dynamic Programming	L4
	PO3	design and develop a solution for a complex problem	L6
	PO4	No investigation & interpretation content. No mapping. Learning is at the basic level. Attainment will be Zero, if mapping done.	-
	PO5	requires the knowledge of Eclipse juno for program execution	L6
	PO6	No social, cultural issues. No mapping	-
	PO7	No impact on Environment and sustainability. No mapping	-
	PO8	No team work or lead for the ethical work. No mapping	-
	PO9	No team work or lead for the ethical work. No mapping	-
	PO10	No usage for communication. No mapping.	-
	PO11	No project management and finance. No mapping.	-
	PO12	Lifelong learning is required based on technology changes	L4
CO4	PO1	Knowledge of Greedy concept is required to solve the complex problems	L6
	PO2	analyzing the problem requires the knowledge of Greedy concept.	L4
	PO3	design and develop a solution for a complex problem	L6
	PO4	No investigation & interpretation content. No mapping. Learning is at the basic level. Attainment will be Zero, if mapping done.	-
	PO5	requires the knowledge of Eclipse juno for program execution	L6
	PO6	No social, cultural issues. No mapping	-
	PO7	No impact on Environment and sustainability. No mapping	-
	PO8	No team work or lead for the ethical work. No mapping	-
	PO9	No team work or lead for the ethical work. No mapping	-

	PO10	No usage for communication. No mapping.	-
	PO11	No project management and finance. No mapping.	-
	PO12	Lifelong learning is required based on technology changes	L4
CO5	PO1	Knowledge of Backtracking is required to solve the complex problems.	L6
	PO2	analyzing the problem requires the knowledge of Backtracking.	L4
	PO3	design and develop a solution for a complex problem	L6
	PO4	No investigation & interpretation content. No mapping. Learning is at the basic level. Attainment will be Zero, if mapping done.	-
	PO5	requires the knowledge of Eclipse juno for program execution	L6
	PO6	No social, cultural issues. No mapping	-
	PO7	No impact on Environment and sustainability. No mapping	-
	PO8	No team work or lead for the ethical work. No mapping	-
	PO9	No team work or lead for the ethical work. No mapping	-
	PO10	No usage for communication. No mapping.	-
	PO11	No project management and finance. No mapping.	-
	PO12	Lifelong learning is required based on technology changes	L4

Note: Write justification for each CO-PO mapping.

5. Curricular Gap and Content

SNo	Gap Topic	Actions Planned	Schedule Planned	Resources Person	PO Mapping
1					
2					
3					
4					
5					

Note: Write Gap topics from A.4 and add others also.

6. Content Beyond Syllabus

SNo	Gap Topic	Actions Planned	Schedule Planned	Resources Person	PO Mapping
1	C++	Extra Classes			
2					
3					
4					
5					

Note: Anything not covered above is included here.

C. COURSE ASSESSMENT

1. Course Coverage

Unit	Title	Teaching Hours	No. of question in Exam							CO	Levels
			CIA-1	CIA-2	CIA-3	Asg-1	Asg-2	Asg-3	SEE		
1	Write a C++ program to read series of names, one per line, from standard input and write these names spelled in reverse order to the standard output using I/O redirection and pipes. Repeat the exercise using an input file specified by the user instead of the standard input and using an output file specified by the user instead of the	3	1	-	1	-	-	-	1	15IS-L68.1	L2

	standard output.										
2	Write a C++ program to read and write student objects with fixed length records and the fields delimited by "|". Implement pack ( ), unpack ( ), modify ( ) and search ( ) methods.	3	1	-	1	-	-	-	1	15IS-L68.2	L4
3	Write a C++ program to read and write student objects with Variable - Length records using any suitable record structure. Implement pack ( ), unpack ( ), modify ( ) and search ( ) methods.	3	1	-	1	-	-	-	1	15IS-L68.2	L4
4	Write a C++ program to write student objects with Variable - Length records using any suitable record structure and to read from this file a student record using RRN.	3	1	-	1	-	-	-	1	15IS-L68.3	L5
5	Write a C++ program to implement simple index on primary key for a file of student objects. Implement add ( ), search ( ), delete ( ) using the index.	3	-	1	1	-	-	-	1	15IS-L68.4	L5
6	Write a C++ program to implement index on secondary key, the name, for a file of student objects. Implement add ( ), search ( ), delete ( ) using the secondary index.	3	-	1	1					15IS-L68.4	L6
7	Write a C++ program to read two lists of names and then match the names in the two lists using Co Sequential Match based on a single loop. Output the names common to both the lists.	3	-	1	1	-	-	-	1	15IS-L68.5	L4
8	Write a C++ program to read k Lists of names and merge them using k-way merge algorithm with k = 8.	3	-	1	1	-	-	-	1	15IS-L68.5	L4
9	Project	16							1	15IS-L68.6	L6
					1				1		
-	**Total**	**40**	**4**	**4**	**9**	**-**	**-**	**-**	**9**		**L6**

Note: Write CO based on the theory course.

2. Continuous Internal Assessment (CIA)

Evaluation	Weightage in Marks	CO	Levels
CIA Exam – 1	20	CO1,CO2,CO3	L2,L3,L4
CIA Exam – 2	20	CO4,CO5,	L4,L5
CIA Exam – 3	20	CO1,CO2,CO3,CO4,CO5,CO6	L3,L4,L6
Assignment - 1	-	-	-
Assignment - 2	-	-	-
Assignment - 3	-	-	-
	-	-	-
Seminar - 1	-	-	-

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Seminar - 2	-	-	-
Seminar - 3	-	-	-
	-	-	-
Other Activities – define – Slip test	-	-	-
Final CIA Marks	**20**	**-**	**-**

-

SNo	Description	Marks
1	Observation and Weekly Laboratory Activities	04 Marks
2	Record Writing / Viva	08 Marks for each Expt
3	Internal Exam Assessment	08Marks
4	Internal Assessment	20 Marks
5	SEE	80Marks
-	**Total**	**100 Marks**

D. EXPERIMENTS

Experiment 1:

-	**Experiment No.:**	1	**Marks**		**Date Planned**		**Date Conducted**	
1	Title	Write a C++ program to read series of names, one per line, from standard input and write these names spelled in reverse order to the standard output using I/O redirection and pipes. Repeat the exercise using an input file specified by the user instead of the standard input and using an output file specified by the user instead of the standard output.						
2	Course Outcomes							
3	Aim	Understanding the basic concepts on file operations						
4	Material / Equipment Required	Lab Manual						
5	Theory, Formula, Principle, Concept	Object oriented Concepts						
6	Procedure, Program, Activity, Algorithm, Pseudo Code	**Step 1. Start** • **Step 2. take a string array** • **Step 3. write the contents of the array in to the file "f1"** • **Step 4. Read the contents of the file in the reverse order** • **Step 5. Write the contents of the file which are read in the reverse order , to another file "f2"** • **step 6. display the contents of both the files "f1 & f2"**						
7	Block, Circuit, Model Diagram, Reaction Equation, Expected Graph	-						
8	Observation Table, Look-up Table, Out-put							
9	Sample Calculations	-						
10	Graphs, Outputs	-						
11	Results & Analysis	Out put • Enter the no. of names to be entered Enter name priya						

		The name in reverse order ayirp Enter name padma The name in reverse order amdap Enter name ajit The name in reverse order tija Enter name sohan The name in reverse order nahos Enter name dilip The name in reverse order pilid •
12	Application Areas	Computer Science
13	Remarks	-
14	Faculty Signature with Date	-

Experiment 2 :

-	**Experiment No.:**	2	**Marks**		**Date Planned**		**Date Conducted**	
1	Title	Write a C++ program to read and write student objects with fixed length records and the fields delimited by "|". Implement pack ( ), unpack ( ), modify ( ) and search ( ) methods.						
2	Course Outcomes							
3	Aim	Is to understand how to create a buffer, write the contents to the buffer and read the contents from the buffer						
4	Material / Equipment Required	Lab Manual						
5	Theory, Formula, Principle, Concept	Object oriented Concepts						
6	Procedure, Program, Activity, Algorithm, Pseudo Code	Step 1 : Start Step 2 : declare a string array (to make it is a buffer) Step 3: read the contents from the keyboard and write the contents to the buffer(pack) Step 4: write contents of the buffer to the file Step 5 : read the contents of the file back to the buffer(unpack) step 6: Display the contents from the buffer on to the screen						
7	Block, Circuit, Model Diagram, Reaction Equation, Expected Graph							
8	Observation Table, Look-up Table, Output	0: Exit 1: write 2: Display 3: Modify 4: Search Enter your choice 1 Enter the student name Karthik Enter the student USN 1bg09is015						

```
Enter the student branch    Ise

0: Exit
1: write
2: Display
3: Modify
4: Search
Enter your choice               1
Enter the student name      Dhanvi
Enter the student USN       1bg09is007
Enter the student branch    Ise

0: Exit
1: write
2: Display
3: Modify
4: Search
Enter your choice               2
Name                            USN                             Branch
K a r t h i k                   1 b g 0 9 i s 0 1 5             I s e
D    h    a    n    v    i
1    b    g    0    9    i    s    0    0    7    I    s    e

0: Exit
1: write
2: Display
3: Modify
4: Search
Enter your choice               3
Enter the USN to Modify
1bg09is007
Record found
The old values of the record with usn 1bg09is007 are
USN=1bg09is007
Name=Dhanvi
Branch=ise
Enter new values
Name=dhruva
USN=1bg09is023
Branch=ise
Record modified

0: Exit
1: write
2: Display
3: Modify
4: Search
Enter your choice               4
Enter the usn to search
```

		1bg09is023 Record found Dhruva 1bg09is023 Ise 0: Exit 1: write 2: Display 3: Modify 4: Search Enter your choice 0 **Output from text file** karthik|1bg09is015|ise||||||||||||||||||||dhruva|1bg09is023|ise||||||||||||||||||||
9	Sample Calculations	
10	Graphs, Outputs	
11	Results & Analysis	
12	Application Areas	
13	Remarks	
14	Faculty Signature with Date	

Experiment 3 :

-	**Experiment No.:**	3	**Marks**		**Date Planned**		**Date Conducted**	
1	Title	Write a C++ program to read and write student objects with Variable - Length records using any suitable record structure. Implement pack ( ), unpack ( ), modify ( ) and search ( ) methods.						
2	Course Outcomes							
3	Aim	Will be able to understand what is variable length record and its advantages and disadvantages						
4	Material / Equipment Required	Lab Manual						
5	Theory, Formula, Principle, Concept	Object Oriented Concepts						
6	Procedure, Program, Activity, Algorithm, Pseudo Code	step 1 : Start Step 2 : declare a string array (to make it is a buffer) Step 3: read the contents from the keyboard and write the contents to the buffer(pack) Step 4: write contents of the buffer to the file with the delimeter after each record to distinguish the records Step 5 : read the contents of the file back to the buffer(unpack), until the delimeter (record by record) step 6: Display the contents from the buffer on to the screen						
7	Block, Circuit, Model Diagram, Reaction Equation,							

	Expected Graph	
8	Observation Table, Look-up Table, Output	0: Exit 1: write 2: Display 3: Modify 4: Search Enter your choice 1 Enter the student name Karthik Enter the student USN 1bg09is015 Enter the student branch Ise 0: Exit 1: write 2: Display 3: Modify 4: Search Enter your choice 1 Enter the student name Dhanvi Enter the student USN 1bg09is007 Enter the student branch Ise 0: Exit 1: write 2: Display 3: Modify 4: Search Enter your choice 2 Name USN Branch K a r t h i k 1 b g 0 9 i s 0 1 5 I s e D h a n v i 1 b g 0 9 i s 0 0 7 I s e 0: Exit 1: write 2: Display 3: Modify 4: Search Enter your choice 3 Enter the USN to Modify 1bg09is007 Record found The old values of the record with usn 1bg09is007 are USN=1bg09is007 Name=Dhanvi Branch=ise Enter new values Name=dhruva USN=1bg09is023 Branch=ise

		Record modified
9	Sample Calculations	
10	Graphs, Outputs	
11	Results & Analysis	
12	Application Areas	
13	Remarks	
14	Faculty Signature with Date	

Experiment 4 :

-	**Experiment No.:**	4	**Marks**		**Date Planned**		**Date Conducted**	
1	Title	Write a C++ program to write student objects with Variable - Length records using any suitable record structure and to read from this file a student record using RRN.						
2	Course Outcomes							
3	Aim							
4	Material / Equipment Required	Lab Manual						
5	Theory, Formula, Principle, Concept							
6	Procedure, Program, Activity, Algorithm, Pseudo Code	1. Step 1 : Start 2. Step 2 : declare a string array (to make it is a buffer) 3. Step 3: read the contents from the keyboard 4. Step 4. add the serial no for each record in the buffer 5. step 5 : write the contents to the buffer (pack) 6. Step 6: write contents of the buffer to the file with the delimeter after each record to distinguish the records 7. Step 7 : read the contents of the file using serial no (RRN) back to the buffer(unpack), until the delimeter (record by record) 8. step 8: Display the contents from the buffer on to the scree						
7	Block, Circuit, Model Diagram, Reaction Equation, Expected Graph							
8	Observation Table, Look-up Table, Output	0#karthik|1bg09is015|ise||||||||||||||| 1#dhruva|1bg09is023|ise||||||||||||||||||||||						
9	Sample Calculations							
10	Graphs, Outputs							
11	Results & Analysis							
12	Application Areas							
13	Remarks							
14	Faculty Signature with Date							

Experiment 5 :

-	**Experiment No.:**	5	**Marks**		**Date Planned**		**Date Conducted**	

1	Title	Write a C++ program to implement simple index on primary key for a file of student objects. Implement add ( ), search ( ), delete ( ) using the index.
2	Course Outcomes	
3	Aim	
4	Material / Equipment Required	Lab Manual
5	Theory, Formula, Principle, Concept	
6	Procedure, Program, Activity, Algorithm, Pseudo Code	1. Step 1 : Start 2. Step 2 : declare a string array (to make it is a buffer) 3. Step 3: read the contents from the keyboard 4. Step 4 : create 2 files separately, one file for the records(data) and 2nd file for the Primary key and the index to the data file 5. Step 5. write the primary key no for each record in to index file and the data in the second file 6. step 6 : write the contents to the buffer (pack) 7. Step 7: write contents of the buffer to the main file with the delimiter after each record to distinguish the records 8. Step 8 : read the contents of the file using primary key in one file ,write the contents relevant from the data file back to the buffer(unpack), until the delimiter (record by record) 9. step 9: Display the contents from the buffer on to the screen
7	Block, Circuit, Model Diagram, Reaction Equation, Expected Graph	
8	Observation Table, Look-up Table, Output	Give unique numbers to the records In a file So records identified by urn University register number
9	Sample Calculations	
10	Graphs, Outputs	
11	Results & Analysis	
12	Application Areas	
13	Remarks	
14	Faculty Signature with Date	

Experiment 6 :

-	**Experiment No.:**	6	**Marks**		**Date Planned**		**Date Conducted**	
1	Title	Write a C++ program to implement index on secondary key, the name, for a file of student objects. Implement add ( ), search ( ), delete ( ) using the secondary index.						
2	Course Outcomes							
3	Aim							
4	Material / Equipment Required	Lab Manual						

5	Theory, Formula, Principle, Concept	
6	Procedure, Program, Activity, Algorithm, Pseudo Code	Step 1 : Start Step 2 : declare a string array (to make it is a buffer) Step 3: read the contents from the keyboard Step 4 : create 3 files separately, one file for the records(data) and 2nd file for the Primary key and the index to the data file and 3rd file for the secondary file Step 5. write the primary key no for each record in to index file and the data in the second file and the secondary index to the 3rd file step 6 : write the contents to the buffer (pack) Step 7: write contents of the buffer to the main file with the delimiter after each record to distinguish the records Step 8 : read the contents of the file using primary key in one file ,write the contents relevant from the data file back to the buffer(unpack), until the delimiter (record by record) step 9: Display the contents from the buffer on to the scree
7	Block, Circuit, Model Diagram, Reaction Equation, Expected Graph	
8	Observation Table, Look-up Table, Output	
9	Sample Calculations	
10	Graphs, Outputs	
11	Results & Analysis	
12	Application Areas	Image Processing
13	Remarks	
14	Faculty Signature with Date	

Experiment 7 :

-	**Experiment No.:**	7	**Marks**	8	**Date Planned**		**Date Conducted**	
1	Title	Write a C++ program to read two lists of names and then match the names in the two lists using Cosequential Match based on a single loop. Output the names common to both the lists.						
2	Course Outcomes							
3	Aim							
4	Material / Equipment Required	Lab Manual						
5	Theory, Formula, Principle, Concept							
6	Procedure, Program, Activity, Algorithm, Pseudo Code	Step 1: start Step 2: create 2 files seperately Step 3: write the 2 lists of names in to 2 different files Step 4: the program will search the names in the 2 files and it will display the names which are common Step 5 :stop						
	Block, Circuit, Model Diagram, Reaction Equation,							

	Expected Graph	
8	Observation Table, Look-up Table, Output	List 1: amogh amulya pallavi vamshi Krishna List2 :kallesh kalkuta amrish sunil Krishna Krishna is common name found in both list
9	Sample Calcula-tions	
10	Graphs, Outputs	
11	Results & Analysis	
12	Application Areas	
13	Remarks	
14	Faculty Signature with Date	

Experiment 8 :

-	**Experiment No.:**	8	**Marks**	8	**Date Planned**		**Date Con-ducted**	
1	Title	Write a C++ program to read k Lists of names and merge them using k-way merge algorithm with k = 8.						
2	Course Outcomes							
3	Aim							
4	Material / Equip-ment Required	Lab Manual						
5	Theory, Formula, Principle, Concept							
6	Procedure, Pro-gram, Activity, Al-gorithm, Pseudo Code	Step 1: start Step 2: create a file and write the contents in to the file Step 3: the program will create “N” no of files and distribute the contents of that files to all the “N” files Step 4 :open the different files and see how the distribution of the contents are done in Step 5: stop						
7	Block, Circuit, Model Diagram, Reaction Equation, Expected Graph							
8	Observation Table, Look-up Table, Output							
9	Sample Calcula-tions							
10	Graphs, Outputs							
11	Results & Analysis							
12	Application Areas							
13	Remarks							
14	Faculty Signature with Date							

Experiment 9 :

-	Experiment No.:	9	Marks		Date		Date Con-	

					Planned		ducted	
1	Title	Project						
2	Course Outcomes							
3	Aim							
4	Material / Equipment Required							
5	Theory, Formula, Principle, Concept							
6	Procedure, Program, Activity, Algorithm, Pseudo Code							
7	Block, Circuit, Model Diagram, Reaction Equation, Expected Graph							
8	Observation Table, Look-up Table, Output							
9	Sample Calculations							
10	Graphs, Outputs							
11	Results & Analysis							
12	Application Areas							
13	Remarks							
14	Faculty Signature with Date							