# **Operating Systems**

# **LAB 07**

**Objective: Understand File Systems**

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| **FILE ALLOCATION TECHNIQUES.** |
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| **Exercise 1 - Contiguous File Allocation** |
| * Write a C program that simulates Contiguous File Allocation Technique |
| **Exercise 2 - Linked File Allocation** |
| * Write a C program that simulates Indexed File Allocation Technique |
| **Exercise 3 - Indexed File Allocation** |
| * Write a C program that simulates Indexed File Allocation Technique |
| **Discussion** |
| * Describe the effects of a corrupted data block for a given file for:   + contiguous,   + linked, and   + indexed (or table based) * Consider a file whose size varies between 4 KB and 4 MB during its lifetime. Which of the three allocation schemes (contiguous, linked and table/indexed) will be most appropriate? Why? |
| **Exercise 4 – Disk Defragmentation** |
| * Write a C program that simulates Disk Defragmentation |

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| **FILE ORGANIZATION TECHNIQUES** |
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| **Exercise 5 - SINGLE LEVEL DIRECTORY** |
| * Write a C program that simulates File Organization using Single Level Directory Technique |
| **Exercise 6 - HIERARCHICAL** |
| * Write a C program that simulates File Organization using Hierarchical Technique |