| MIT Academy of Engineering ( An Autonomous Institute Affiliated to SPPU) | LAB ASSIGNMENT | |
|---|---|---|
| | ACADEMIC YEAR | 2020-21 |
| Alandi (D), Pune – 412105 | SEM/~~TRI~~ | V |
| SCHOOL OF ELECTRICAL ENGG. | CLASS&DIVISION / BLOCK | TY Btech |

| COURSE | Embedded Linux | LAB ASSIGNMENT NO. | 5 |
|---|---|---|---|
| COURSE INSTRUCTOR | Mrs. Vinaya Tapkir, Mr. Mahesh Vibhute, Mr. Amit Nagrale | DATE | 2/11/2020 |

| Que. No. | Question Description | Marks | CO No. | BT Level |
|---|---|---|---|---|
| 1 | Write a 'C' program to encrypt/decrypt a file using any one of the given cipher:<br>(i) An offset cipher: In an offset cipher each character from the source file is offset with a fixed value and then written to the target file. For example, if character read from the source file is 'A', then convert this into a new character by offsetting 'A' by a fixed value, say 128, and then writing the new character to the target file.<br>(ii) A substitution cipher: In this each character read from the source file is substituted by a corresponding predetermined character and this character is written to the target file.<br>For example, if character 'A' is read from the source file, and if we have decided that every 'A' is to be substituted by '!', then a '!' would be written to the target file in place of every 'A' Similarly, every 'B' would be substituted by '5' and so on.<br>Modularize the given problem and define the following modules/functions separately in C source (.c) files:<br>a) ReadSrc()<br>b) ConvertCipher()<br>c) DsiplayCipher()<br>Write a Makefile to compile and link these three C source files and produce a final binary myencrpt. Build the program in Linux environment using GNU Compiler Collection (GCC). | 15 | 3 | L3 |

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| **2** | Suppose a file contains student's records with each record containing name and age of a student. Write a 'C' program to read these records and display them in sorted order by name. Modularize the given problem and define the following modules/functions separately in .c file:<br>i) ReadRec()<br>ii) DisplayRec()<br>iii) SortRec()<br>Write a Makefile to compile and link these three C source files and produce a final binarymyrec. Build the program in Linux environment using GNU Compiler Collection (GCC). | **10** | **3** | **L3** |

*(**Remark:** Course Instructor to add assessment rubrics for each assignment)*

**Course Instructor**

Sign with Date

## Rubrics for Assessment of Activity

| Criteria | Excellent | Good | Satisfactory | Unsatisfactory | Points |
|---|---|---|---|---|---|
| **Problem Analysis** | Able to identify correctly all input and output and provide alternative for the requirements (10) | Able to identify Correctly some input and output and identify the requirements (8) | Able toidentify only oneinput oroutput and partially the requirements (2) | Unableto Identifyany Inputandoutput and requirements (0) | **10** |
| **Coding Standards** | • Able to applyrequired commands or datastructure, control structure andproduce correct results<br>• Able to runprogramcorrectlywithoutany logicerror anddisplayappropriate output (4) | • Able toapplyrequired commands and control structure but does not produce correct results<br>• Able to runprogramcorrectlywithoutany logicerror anddisplay inappropriate output (2) | • Able toidentifyrequired data type and control structure but doesapply correctly<br>• Able torunprogrambut havelogic error (1) | • Unableto Identify required commands and controlstructure<br>• Unable to run program (0) | **10** |
| **Documentation** | Ability to produce a readable program - well writtenandclearlyexplainswhat thecode isaccomplishing via. comments | Documentation is simplecommentsembedded in codewithheaderseparating thecodes. The code is fairly easy to read | Documentation issimple commentin code. The code | No documentation (0) | **10** |

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| | (3) | (2) | is poorlyorganized and verydifficultto read (1) | | |
| | | | | **Total Points** | **30** |