



SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

B.TECH IV Semester

CSL-220-20	Programming Skills	L	T	P	Credits
		2	0	0	2

***Objective:** The objective of this course is to learn versioning using git, its internals and how git works behind the scenes. The paper has been incorporated to teach both version control and logic building with the help of language independent functions commonly found and used in all programming languages. With a prerequisite of only basic knowledge of any programming language, it has been designed to be offered as an open elective across all courses.*

Unit1: Introduction:

What is Git, Version control/Distributed version control Installation windows / Linux, basic configuration, help file, Git Vs Github, Github basics, account creation

Unit 2:Repository and File maintenance

Initialize a repository , commits, git work hours, add files, edit files, view changes with diff, view staged changes, delete files, move or rename files,

Unit 3 : Git Branches

Why Branching, working with branches, using git remotely, push and pull system, deleting remote branches, team work on github

Unit 4: Iterator,Variables,Filtering:

Going through a dataset,flowcharts,Generic flowcharts for iterator with variables,counting ,sum,average,accumulator,iterator with Filtering,compound conditions,looking for a data element,Patterns

Unit 5:Procedures and subprocedures: Introduction to methods, Method definition, Method call, Method without arguments, Method with arguments, method with return statement, recursion,Difference between Comparison and iteration.

Unit 6:File handling: Concept of files,modes of file,reading from file and writing to other file,reading from standard input and writing to files,reading from files and writing to standard output.

Suggested Readings

Textbooks:

1. **Pro Git - Scott Chacon, Ben Straub, Apress 2nd Edition**
2. **Cracking the coding interview Gayle Laakmann mcdowell 6th Edition**

Reference Book:

1. **Think Like A Programmer by V. Anton Spraul**

Web References:

1. <https://codescracker.com/java/program/java-programming-examples.htm>
2. <http://blog.kodegod.com/learn-programming/101-programs-to-build-your-programming-logic-using-c-programming/>
3. <https://learncodeonline.in/create-logic-program/>

Note: Latest editions of all the suggested books are recommended.



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B.TECH IV Semester

CSP-220-20	Programming Skills Lab	L	T	P	Credits
		0	0	4	2

Objective: This subject will teach about logic development using java/C.

1. Write a program to find maximum between three numbers.
2. Write a program to check whether a number is even or odd.
3. Write a program to input any character and check whether it is alphabet, digit or special character.
4. Write a program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following:
 Percentage \geq 90% : Grade A
 Percentage \geq 80% : Grade B
 Percentage \geq 70% : Grade C
 Percentage \geq 60% : Grade D
 Percentage \geq 40% : Grade E
 Percentage $<$ 40% : Grade F
5. Write a program to make simple calculator using switch.
6. Write a program to print multiplication table of any number.
7. Write a program to count number of digits in a number.
8. Write a program to find first and last digit of a number.
9. Write a program to swap first and last digits of a number.
10. Write a program to calculate sum of digits of a number
11. Write a program to enter a number and print its reverse.
12. Write a program to check whether a number is palindrome or not.
13. Write a program to find frequency of each digit in a given integer.
14. Write a program to enter a number and print it in words.

15. Write a program to print all ASCII character with their values.
16. Write a program to find power of a number.
17. Write a program to calculate factorial of a number.
18. Write a program to check whether a number is Prime number or not.
19. Write a program to check whether a number is Armstrong number or not..
20. Write a program to print all Perfect numbers between 1 to n.
21. Write a program to check whether a number is Strong number or not.
22. Write a program to print Fibonacci series up to n terms.
23. Write a program to convert Binary to Decimal number system.
24. Write a program to convert Decimal to Binary number system.
25. Write a program to check whether a number is even or odd using functions.
26. Write a program to check whether a number is prime, Armstrong or perfect number using functions.
27. Write a program to find power of any number using recursion.
28. Write a program to print all natural numbers between 1 to n using recursion.
29. Write a program to print all even or odd numbers in given range using recursion.
30. Write a program to find sum of all natural numbers between 1 to n using recursion.
31. Write a program to find sum of all even or odd numbers in given range using recursion.
32. Write a program to check whether a number is palindrome or not using recursion.
33. Write a program to find sum of digits of a given number using recursion.
34. Write a program to find factorial of any number using recursion.
35. Write a Program to Calculate Sum & Average of an Array
36. Write a Program to Find the Largest Number in an Array
37. Write a Program to Find the Second Largest & Smallest Elements in an Array.
38. Write a Program to Insert an Element in a Specified Position in a given Array.
39. Write a Program to Delete the Specified Integer from an Array.
40. Write a Program to Insert an Element in a Specified Position in a given Array
41. Write a Program to find multiplication of two matrices
42. Write a Program to find sum and subtraction of two matrices.
43. Write a program to find the transpose of matrix.

44. Write a program to make first alphabet capital of each word in a string.
45. Write a program to reverse words of a string.
46. Write a program to find occurrences of each character in a string.
47. Write a program to check given strings is Anagram or not.
48. Write a program given String is Palindrome String or not.
49. How to Copy a File to another File in Java
50. How to get the last modified date of a file in java
51. How to make a File Read Only in Java
52. How to check if a File is hidden