

Department of Computer Science

Sub.:MCA103(Python)**Student Reg.No.:**_____**Year : 2024-25****Subject Teacher : Dr. Ajay Parikh**

No	Problem Definition	Assignment Date	Submission Date	Sign of T.A. / Teacher	Grade	Remark
Unit 1: Variables, Data Types, and Control Structures						
1.	A card is drawn at random from a deck of well-shuffled cards. Find the probability of it being neither a king nor a spade.					
2.	Find the sum of the first n natural numbers.					
3.	Extracting fields of a roll number using string indexing and slicing.					
4.	Word shuffle using string manipulation.					
5.	Write a program to find out if the two blood groups match.					
6.	Find the student from CS department where the roll number may be in capital or small-case Letters.					
7.	To read a card as input and output if the card is lucky or not.					
8.	Find out pass-percentage of a class. A teacher is entering the marks of students. A student passes a course if the marks are at least 40 (out of 100). The teacher wants to know the percentage of students passed.					
9.	Print Fibonacci sequence.					

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10.	Collatz sequence 1. For even numbers, divide by 2; 2. For odd numbers, multiply by 3 and add 1. 3. Repeat above steps, until it becomes 1. Input - 7 Output- 7, 22, 11, 34, 17, 52, 26, 13, 40, 20, 10, 5, 16, 8, 4, 2, 1.					
11.	Primality testing: Given a positive integer, check if the number is prime or not.					
12.	Find birthdays in a month using dictionary. Birthdays in DD/MM/YY format					
13.	Exact change: Given a price identify if you have exact change summing up to that price? (Count all combinations of coins to make a given value sum.)					

Book Reference: Python Programming, Author: by Rupesh Nasre, AICTE.

Grade	Marks
A	18 - 20
B	14-17
C	11-13
D	8-10
E	5-7
F	1-4
G	Absent