

SVKM's NMIMS

Mukesh Patel School of Technology Management & Engineering / School of Technology Management & Engineering

B. Tech/MBA Tech	Workbook	Academic Year- 2024-25
Year:-First	Subject:- Programming for Problem Solving	Semester:- First

Experiment: 7

PART B

(PART B: TO BE COMPLETED AND SUBMITTED BY STUDENTS)

Students must execute all the programs, write executed code in the workbook, and submit part B of experiment 7 on the student portal. The filename should be PPS_batch_rollno_experimentno. Example: PPS_A1_A001_P7

Roll No.:	Name:
Prog/Yr/Sem:	Batch:
Date of Experiment:	Date of Submission:

Aim: Programming using functions and strings (character array)

Tasks:

Sr.	Problem Statement
No.	
1	Write a function that takes one integer parameter as a year, and displays its leap year or not.
2	Write a function that takes two integer parameters $x & y$, and returns the result X^Y . (Don't use pow())
3	Implement a program using user defined function to return largest of three floating-point numbers.
4	WAP using user defined function to calculate and return factorial of a given integer.
5	Write a menu driven program to compute sum of digits of a number, to find reverse of a number, to count number of digits by writing three different functions with parameters and return type.
6	Write user defined function "Search_Element" to search element is present in 1D array or not. Search function accepts array, size of array and key to search as parameters.
7	Write a program to print Fibonacci series up to n using recursion.

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8	Write one program to perform following operations on strings (Character Arrays)		
	a) To find length of a string		
	b) To compare two string for equality		
	c) To Copy one string to other		
	d) To concatenate two string		
	e) To find reverse of a String		
9	WAP to copy one string to another string without using string handling function and display copied string (Character Arrays).		

Executed Code, Input and Output

Write a function that takes one integer parameter as a year, and displays its leap year or not.

Executed Code: -

// Paste the executed code here

Input Output: -

// Paste the input/output of executed code

Write a function that takes two integer parameters x & y, and returns the result X^{Y} . (Don't use pow())

Executed Code: -

// Paste the executed code here

Input Output: -

// Paste the input/output of executed code

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3.	Implement a program using user defined function to return largest of three floating-point numbers.
Execute	d Code: -
// Paste t	he executed code here
Input O	
// Paste t	he input/output of executed code
4.	WAP using user defined function to calculate and return factorial of a given
	integer.
	d Code: - he executed code here
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// Paste t	d Code: - he executed code here utput: - he input/output of executed code Write a menu driven program to compute sum of digits of a number, to find
// Paste to Input O // Paste to	d Code: - he executed code here utput: - he input/output of executed code Write a menu driven program to compute sum of digits of a number, to find reverse of a number, to count number of digits by writing three different
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// Paste to Input O // Paste to 5. Execute	d Code: - the executed code here utput: - the input/output of executed code Write a menu driven program to compute sum of digits of a number, to find reverse of a number, to count number of digits by writing three different functions with parameters and return type. d Code: -
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6.	White read of the defined fraction "Coards Element" to seemble demant is appeared in		
	Write user defined function "Search_Element" to search element is present in		
	1D array or not. Search function accepts array, size of array and key to search		
	as parameters.		
Executed			
// Paste the executed code here			
Input Ou			
// Paste th	e input/output of executed code		
7.	Write a program to print Fibonacci series up to n using recursion.		
Executed	Code: -		
// Paste th	e executed code here		
Innut Ou	tout		
-	Input Output: -		
// Paste the input/output of executed code			
,, 1 0,500 01	•		
,, 2 0,500 02	•		
	e input/output of executed code		
8.	Write one program to perform following operations on strings (Character		
	e input/output of executed code		
	Write one program to perform following operations on strings (Character Arrays)		
	Write one program to perform following operations on strings (Character Arrays) a) To find length of a string		
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9.	WAP to copy one string to another string without using string handling function			
	and display copied string (Character Arrays).			
Executed Code: -				
// Paste the	executed code here			
Innut Out	mut.			
Input Out	-			
// Paste the	e input/output of executed code			

Observation and Learning: -

Write your observation and learning

Additional Questions (to be written in workbook)

1. Consider the following program of calculating interest and identify the various functions components like actual arguments, formal arguments/parameters, function call, function declaration/prototype, function definition, return type of the function by writing it to workbook. Also comment on function category of main() as well as simpleinterest().

```
#include <iostream>
using namespace std;

float simpleinterest(float, float, float);

float simpleinterest(float p, float t, float r){
    float SI;
    SI = (p*t*r)/100;
    return SI;
}
```



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- 2. List any six string handling functions and write a program to check string is palindrome or not using string handling function.
- 3. What is recursion? Write a program to find GCD of a number using recursion.