	<p align="center">SVKM's NMIMS Mukesh Patel School of Technology Management & Engineering / School of Technology Management & Engineering</p>		
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:

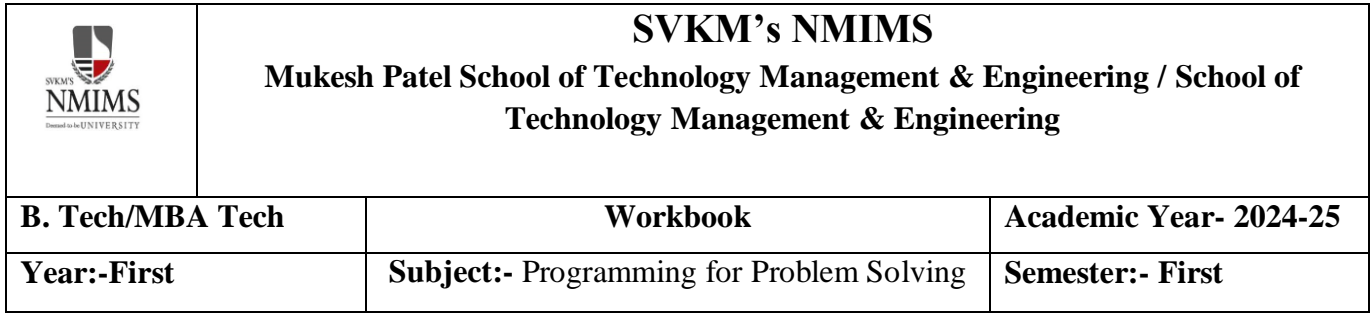
Sr. No.	Problem Statement
1	Write a function that takes one integer parameter as a year, and displays its leap year or not.
2	Write a function that takes two integer parameters x & y, and returns the result X^Y . (Don't use pow())
3	Implement a program using user defined function to return largest of 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	<p>Write one program to perform following operations on strings (Character Arrays)</p> <ul style="list-style-type: none"> 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

1.	
<p>Executed Code: - // Paste the executed code here</p> <p>Input Output: - // Paste the input/output of executed code</p>	
2.	Write a function that takes two integer parameters x & y, and returns the result X^Y . (Don't use pow())
<p>Executed Code: - // Paste the executed code here</p> <p>Input Output: - // Paste the input/output of executed code</p>	



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Technology Management & Engineering**

Academic Year- 2024-25

Semester:- First

Implement a program using user defined function to return largest of three floating-point numbers.


```
// Paste the input/output of executed code
```

WAP using user defined function to calculate and return factorial of a given integer.


```
// Paste 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.

```
// Paste the input/output of executed code
```

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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.
<p>Executed Code: - // Paste the executed code here</p> <p>Input Output: - // Paste the input/output of executed code</p>	
7.	Write a program to print Fibonacci series up to n using recursion.
<p>Executed Code: - // Paste the executed code here</p>	
8.	Write one program to perform following operations on strings (Character Arrays) <ol style="list-style-type: none"> To find length of a string To compare two string for equality To Copy one string to other To concatenate two string To find reverse of a String
<p>Executed Code: - // Paste the executed code here</p> <p>Input Output: - // Paste the input/output of executed code</p>	
9.	WAP to copy one string to another string without using string handling function and display copied string (Character Arrays).

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Executed Code: -

// Paste the executed code here

Input Output: -

// Paste the 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;
}

int main() {
    float p,t,r,si;
```

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<pre>cout<<"Enter amount time and rate of intrest"<<endl; cin>>p>>t>>r; si=simpleinterest(p,t,r); cout<<"Simple Interest is "<<si; return 0; }</pre>
<p>Output:- Enter amount time and rate of interest 45000 60 12.5 Simple Interest is 337500</p>

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.