



॥वसुधैव कुटुम्बकम्॥

SYMBIOSIS INSTITUTE OF TECHNOLOGY, PUNE

Constituent of Symbiosis International (Deemed University), Pune

Assignment No.: 05	
Course Name	Programming in C Lab
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Branch	CSE
Class	C-1
Academic Year & Semester	2023-2024 & Semester 2
Date of Performance	09/02/2024
Assignment Title (Full):	Write a C program to generate the Fibonacci Series for a given number 'n'.
<p>Theory: (Note: According to the assignment title, please write the background information as an introduction, then write the steps/logic/process/algorithm of the C program in the Journal Notebook, and add its screenshot in the below theory response.)</p>	
<p>Theory Response:</p> <ol style="list-style-type: none">1. Accept the number of terms (n) for the Fibonacci series from the user.2. Declare an array A of size n to store the Fibonacci series.3. Initialize the first two elements of the array as 0 and 1.4. Use a loop to calculate the remaining Fibonacci numbers and store them in the array.5. Display the generated Fibonacci series using another loop.	
<p>Output: (Note: Execute the C program as per the assignment title, take an input code and output result screenshot with the date and time from your computer, and add its screenshot in the below output response.)</p>	

Output Response:

```
1  # include <stdio.h>
2  int main(){
3      int n;
4      printf("Enter the number of terms: ");
5      scanf("%d", &n);
6      int A[n];
7      A[0]=0;
8      A[1]=1;
9      for (int i = 2; i < n; i++)
10     {
11         A[i]=A[i-1]+A[i-2];
12     }
13     printf("The fibonacci series is: ");
14     for (int i = 0; i < n; i++)
15     {
16         printf("%d ", A[i]);
17     }
18 }
```

Enter the number of terms: 11

The fibonacci series is: 0 1 1 2 3 5 8 13 21 34 55

› (base) fahee@Faheems-MacBook-Pro Programming_in_C %

Conclusion: (Note: Write the key findings or outcome from this assignment, enlist their potential real-world applications in Journal Notebook, and add its screenshot in the below conclusion response.)

Conclusion Response:

The C code generates the Fibonacci series up to the specified number of terms. It efficiently utilizes an array to store and compute the series. The Fibonacci sequence is then displayed to the user. The code showcases a simple and effective approach to generating and presenting the Fibonacci series.

Please note that assignment content can be readable.

Faculty Name:

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