**Algorithms**

**Laboratory Task-5  
20-42945-1**

**Submission Deadline** – As announced in the class

**Submission Guidelines**-

* Rename the file to your id only. If your id is 18-XXXXX-1, then the file name must be 18-XXXXX-1.docx.
* Must submit within the given deadline in VUES to the section named Lab Tak-1
* Must include resources for all the section named ‘Code’ and ‘Output (screenshot)’ in the table.

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| Question-1 – **Implement Fibonacci series in the normal way** |
| **Pseudocode**  int fib (int n) {  if (n < 2)  return 1;  return fib(n-1) + fib(n-2);  } |
| **Code**  #include<iostream>  using namespace std;  int fib(int n)  {  if (n <= 1)  return n;  return fib(n-1) + fib(n-2);  }  int main ()  {  int n ;  cout<<"Give a value : ";  cin>>n;  cout << fib(n);  getchar();  return 0;  } |
| **Output (Screenshot)** |

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| Question-2 – **Implement Fibonacci series using dynamic programming** |
| **Pseudocode**  void fib () {  fibresult[0] = 1;  fibresult[1] = 1;  for (int i = 2; i<n; i++)  fibresult[i] = fibresult[i-1] + fibresult[i-2];  } |
| **Code**  #include<iostream>  using namespace std;  int genFibonacci(int n)  {  int fibo[n+2];  fibo[0] = 0;  fibo[1] = 1;  for (int i = 2; i <= n; i++)  {  fibo[i] = fibo[i-1] + fibo[i-2];  }  return fibo[n];  }  int main ()  {  int n;  cout << "Enter number of terms: "; cin >>n;  cout << n<<" th Fibonacci Terms: "<<genFibonacci(n)<<endl;  } |
| **Output (Screenshot)** |