NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA SURATHKAL

DEPARTMENT OF INFORMATION TECHNOLOGY

**IT 301 Parallel Computing LAB 4**

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Execute following programs and put screen shots of the output. Write analysis of the result before uploading in IRIS as a single pdf file. for programming exercises, write the code and also put screenshot of the results.

**1. Program 1**

**Execute following code and observe the working of task directive.**

**Check the result by removing if() clause with task.**

#include<stdio.h>

#include<omp.h>

int fibo(int n);

int main(void)

{

int n,fib;

double t1,t2;

printf("Enter the value of n:\n");

scanf("%d",&n);

t1=omp\_get\_wtime();

#pragma omp parallel shared(n)

{

#pragma omp single

{

fib=fibo(n);

}

}

t2=omp\_get\_wtime();

printf("Fib is %d\n",fib);

printf("Time taken is %f s \n",t2-t1);

return 0;

}

int fibo(int n)

{

int a,b;

if(n<2)

return n;

else

{

#pragma omp task shared(a) if(n>5)

{

printf("Task Created by Thread %d\n",omp\_get\_thread\_num());

a=fibo(n-1);

printf("Task Executed by Thread %d \ta=%d\n",omp\_get\_thread\_num(),a);

}

#pragma omp task shared(b) if(n>5)

{

printf("Task Created by Thread %d\n",omp\_get\_thread\_num());

b=fibo(n-2);

printf("Task Executed by Thread %d \tb=%d\n",omp\_get\_thread\_num(),b);

}

#pragma omp taskwait

return a+b;

}

**Programming exercises in OpenMP**

2.Write a C/C++ OpenMP program to find ROWSUM and COLUMNSUM of a

matrix a[n][n]. Compare the time of parallel execution with sequential execution.

3. Write a C/C++ OpenMP program to perform matrix multiplication. Compare the time of parallel execution with sequential execution.