# Operating System

# Lab 03 (Fork, getpid, getppid, wait)

**Task 01:**

Create a child process using the fork system call then print the process id and parent process id of all running processes.

**Task 02:**

Execute the following loop in your program

for (int i = 0; i < 3; i++)

{

fork();

}

cout << "Hello from the process " << getpid() << endl;

predict the output of the program,

is it same as your predicted output?

**Task 03 Snippets:**

int rank = 0;

for(int i = 1; i <= 2; ++i)

{

if (fork() == 0)

{

rank = rank + i;

break;

}

}

**Task 03:**

Write a program that launches four processes using fork system call

Process 0 display the number between 1 and 25

Process 1 displays the numbers between 26 and 50

Process 2 displays the numbers between 51 and 75

Process 3 displays the numbers between 76 and 100

**Task 04:**

Write a program that launches four processes using fork system call, then all the processes counts that how many prime numbers exists between 2 and 100,001.

Now process 0 should find the count between --- 2 to 25,001

process 1 should find the count between --- 25,002 to 50,001

process 2 should find the count between --- 50,002 to 75,001

process 3 should find the count between --- 75,002 to 100,001

Below there a function is given which finds out whether a number if prime or not

bool isPrime(int num)

{

if (num == 1)

{

return true;

}

else

{

double result;

int divisor = num - 1;

while (num != -1)

{

result = num % divisor;

if (result == 0)

{

num = -1;

}

else

{

divisor = divisor - 1;

}

}

if (divisor == 1)

{

return true;

}

else

{

return false;

}

}

}