# **A Pipe based Word Count tool**

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1. **Overview**

This project is intended to build a system which achieves the desired output though communicating between two process using Unix Pipes. A C program is used as a platform to create two processes wherein the parent process reads the input file passed in the argument line while executing the program and passes the content of the input file using Unix Pipes to the child process. The child process then reads the input from the pipe and implements the word count function to get the number of words present. Now the child process sends the data back using another pipe, the word count to parent process. The parent process is then responsible to print the word count after it receives from the child process.

1. **Concept Used**

To achieve this requirement, made use of Inter Process Communication using Unix Pipes and developed a C program to implement the same. Where in Parent Process or Producer Process will read the input file and sent contents to the Child Process or Consumer Process which will receive the input and compute word count which returns to Parent Process which in turn prints the wordcount. Exchange of data between process takes place using Unix Pipe.

1. **Sample Inputs and Outputs**
   1. Sample Input 1 – line.txt

This is the second project of COMP7500 class.

* 1. Sample Output 1

Process 1 is reading file “line.txt” now ...

Process 1 starts sending data to Process 2 ...

Process 2 finishes receiving data from Process 1 ...

Process 2 is counting words now ...

Process 2 is sending the result back to Process 1 ...

Process 1: The total number of words is 8.

* 1. Sample Input 2 – twoline.txt

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Document having two lines.

* 1. Sample Output 2

Process 1 is reading file “twoline.txt” now ...

Process 1 starts sending data to Process 2 ...

Process 2 finishes receiving data from Process 1 ...

Process 2 is counting words now ...

Process 2 is sending the result back to Process 1 ...

Process 1: The total number of words is 12.

1. **Sample Usage**

$gcc pwordcount.c -o pwordcount  
$. /pwordcount <filename>

1. **Requirement**

Linux Environment or Similar  
GCC/CC Compiler

1. **Conclusion**

The application pwordcount will take a file as input from command line argument. Using Unix Pipes two process communicate between each other, the parent process reads the file and sends the content to child process, while child process performs word count and returns the value to parent, finally parent process prints the word count.