1. Develop a c program to implement the Process system calls (fork (), exec(), wait(), create process, terminate process).

PROGRAM

#include <stdio.h> #include <stdlib.h> #include <sys/types.h> #include <sys/wait.h> #include <unistd.h>

int main() { pid\_t pid;

// Parent process

printf("Parent process ID: %d\n", getpid());

// Create a child process pid = fork();

if (pid < 0) { perror("Fork failed"); exit(1);

} else if (pid == 0) {

// Child process

printf("Child process ID: %d\n", getpid());

// Simulate "create process" by sleeping printf("Child process is sleeping for 5 seconds...\n"); sleep(5);

// Simulate "terminate process" by exiting printf("Child process is terminating...\n"); exit(0);

} else {

// Parent process

// Wait for the child to terminate int status;

wait(&status);

printf("Child process with ID %d terminated with status %d\n", pid, WEXITSTATUS(status));

}

return 0;

}