1&&2 – modificat && gcc shmcollatz.c -o shmcollatz -lrt (librarie pentru shm\_open, shm\_unlink)

#include <unistd.h>

#include <errno.h>

#include <stdlib.h>

#include <stdio.h>

#include <sys/types.h>

#include <sys/stat.h>

#include <fcntl.h>

#include <sys/mman.h>

int i=1, n;

int main(int argc, char \*argv[]){

if(argc<2)

return -1;

printf("Starting parent %d\n", getppid());

char shm\_name[]="myshm";

int shm\_fd;

shm\_fd=shm\_open(shm\_name, O\_CREAT | O\_RDWR, S\_IRUSR | S\_IWUSR);

if(shm\_fd<0){

perror(NULL);

return errno;

}

size\_t shm\_size =getpagesize()\*argc\*4;

if(ftruncate(shm\_fd, shm\_size)==-1){

perror(NULL);

shm\_unlink(shm\_name);

return errno;

}

int \*shm\_ptr = mmap(0, shm\_size, PROT\_READ|PROT\_WRITE, MAP\_SHARED, shm\_fd, 0);

if(shm\_ptr==MAP\_FAILED){

perror(NULL);

shm\_unlink(shm\_name);

return errno;

}

for(i=1;i<argc;i++){

pid\_t pid=fork();

if(pid < 0)

return errno;

else

if (pid==0){

int contor=1;

n=atoi(argv[i]);

if(n!=0){

shm\_ptr[(i-1)\*getpagesize()]=n;

while(n>1){

if(n%2==0)

n=n/2;

else

n=3\*n+1;

shm\_ptr[(i-1)\*getpagesize()+contor]=n;

contor++;

}

}

else

printf("Alt numar\n");

printf("Done parent %d, Me %d\n", getppid(), getpid());

exit(0);

}

else{

wait(NULL);

continue;

}

}

int contor=0;

while(contor!=argc-1){

int k = contor;

printf("%d: ", shm\_ptr[k]);

while(shm\_ptr[k]>1){

printf("%d ", shm\_ptr[k]);

k++;

}

printf("%d\n",1);

contor++;

shm\_ptr=shm\_ptr+4095;

}

munmap(shm\_ptr, shm\_size);

shm\_unlink(shm\_name);

printf("Done parent %d, Me %d finished\n", getppid(), getpid());

return(0);

}