НАЦІОНАЛЬНИЙ ТЕХНІЧНИЙ УНІВЕРСИТЕТ УКРАЇНИ

«КИЇВСЬКИЙ ПОЛІТЕХНІЧНИЙ ІНСТИТУТ»

ФАКУЛЬТЕТ ІНФОРМАТИКИ І ОБЧИСЛЮВАЛЬНОЇ ТЕХНІКИ

КАФЕДРА ОБЧИСЛЮВАЛЬНОЇ ТЕХНІКИ

**Лабораторна робота №5**

*з дисципліни* ***«****Архітектура комп’ютерів 2****»***

Виконала:

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Перевірив:

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Київ 2020 р.

**Лістинг програми:**

**hello1.c**

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\*/

#include <linux/init.h>

#include <linux/module.h>

#include <linux/moduleparam.h>

#include <linux/printk.h>

#include <linux/types.h>

#include <hello1.h>

MODULE\_AUTHOR("Trandashyr Julia");

MODULE\_DESCRIPTION("Hello world in Linux Kernel Training");

MODULE\_LICENSE("Dual BSD/GPL");

void print\_hello(void){

pr\_info("Hello, world!\n");

}

EXPORT\_SYMBOL(print\_hello);

static int \_\_init hello\_init(void)

{

pr\_info("Hello1 module init");

return 0;

}

static void \_\_exit hello\_exit(void)

{

/\* do nothing \*/

}

module\_init(hello\_init);

module\_exit(hello\_exit);

**hello2.c**

/\*

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\*/

#include <linux/init.h>

#include <linux/module.h>

#include <linux/moduleparam.h>

#include <linux/printk.h>

#include <linux/types.h>

#include <hello1.h>

MODULE\_AUTHOR("Trandashyr Julia");

MODULE\_DESCRIPTION("Hello, world in Linux Kernel Training");

MODULE\_LICENSE("Dual BSD/GPL");

static uint times = 1;

module\_param(times,uint,S\_IRUGO);

MODULE\_PARM\_DESC(times, "The amount of times to print hello world");

static int \_\_init hello\_init(void)

{

uint i = 0;

if(times == 0) {

pr\_warning("N: %d", times);

}else if(times >=5 && times <= 10) {

pr\_warning("5 <= N <= 10", times);

} else if(times > 10) {

pr\_err(">10", times);

return -EINVAL;

}

for(i = 0; i < times; i++){

print\_hello();

}

return 0;

}

static void \_\_exit hello\_exit(void)

{

/\* do nothing \*/

}

module\_init(hello\_init);

module\_exit(hello\_exit);

**Makefile**

ccflags-y := -I$(PWD)/inc

ifneq ($(KERNELRELEASE),)

# kbuild part of makefile

obj-m := hello1.o hello2.o

else

# normal makefile

KDIR ?= /lib/modules/`uname -r`/build

# INCLUDE := =I/inc/

default:

$(MAKE) -C $(KDIR) M=$$PWD

clean:

$(MAKE) -C $(KDIR) M=$$PWD clean

endif

**Посилання на репозиторій:**

https://github.com/julia-t07/AK\_Lab5

**Скріншоти виконання:**

Приклади успішного виконання:

