НАЦІОНАЛЬНИЙ ТЕХНІЧНИЙ УНІВЕРСИТЕТ УКРАЇНИ

«КИЇВСЬКИЙ ПОЛІТЕХНІЧНИЙ ІНСТИТУТ»

ФАКУЛЬТЕТ ІНФОРМАТИКИ І ОБЧИСЛЮВАЛЬНОЇ ТЕХНІКИ

КАФЕДРА ОБЧИСЛЮВАЛЬНОЇ ТЕХНІКИ

**Лабораторна робота №6**

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

Виконав:

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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("Mamotenko Bogdan");

MODULE\_DESCRIPTION("AK Laboratory work #6");

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

EXPORT\_SYMBOL(print\_hello);

static struct my\_list\_head \*head;

static int print\_hello(uint count)

{

int i;

struct my\_list\_head \*temp\_head1;

struct my\_list\_head \*temp\_head2;

head = kmalloc(sizeof(struct my\_list\_head\*), GFP\_KERNEL);

temp\_head1 = head;

if (count == 0)

{

pr\_warn("c = 0");

}

else if (count >= 5 && count <= 10)

{

pr\_warn("5 < c < 10");

}

else if (count > 10)

{

pr\_err("c > 10");

return -EINVAL;

}

for (i = 0; i < count; i++)

{

temp\_head1->next = kmalloc(sizeof(struct my\_list\_head\*), GFP\_KERNEL);

temp\_head1->time = ktime\_get();

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

temp\_head1->post\_time = ktime\_get();

temp\_head2 = temp\_head1;

temp\_head1 = temp\_head1->next;

}

kfree(temp\_head2->next);

temp\_head2->next = NULL;

return 0;

}

static int \_\_init hello1\_init(void)

{

pr\_info("Hello1 started");

pr\_info("");

return 0;

}

static void \_\_exit hello1\_exit(void)

{

struct my\_list\_head\* temp\_first = head;

struct my\_list\_head\* temp\_second = temp\_first;

while(temp\_first != NULL)

{

pr\_info("Working time: %lld", temp\_first->post\_time - temp\_first->time);

temp\_second = temp\_first;

temp\_first=temp\_second->next;

kfree(temp\_second);

}

pr\_info("Hello1 finished");

pr\_info("");

}

module\_init(hello1\_init);

module\_exit(hello1\_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("Mamotenko Bogdan");

MODULE\_DESCRIPTION("AK laboratory work #6");

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

static uint count = 1;

module\_param(count, uint, 0);

static int hello\_init(void)

{

return print\_hello(count);

}

static void hello\_exit(void)

{

printk(KERN\_ALERT "Module removed\n");

}

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:

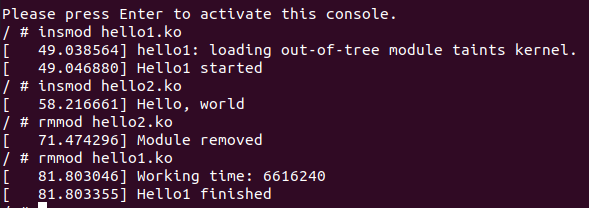
$(MAKE) -C $(KDIR) M=$$PWD clean

endif

**Посилання на репозиторій:**

https://github.com/io82group/AK-2-Lab6.git

**Скріншот виконання:**

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