



## Carátula para entrega de prácticas

Facultad de Ingeniería

Laboratorio de docencia

# Laboratorios de computación salas A y B

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<i>Obervaciones:</i>	

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# CALIFICACIÓN: \_\_\_\_\_

**Todo programa es una función pero no toda función es un programa.**

Un programa es una resolución de cierto problema, este puede ser sencillo y componerse de una sola función o puede ser tan complejo que se compone de diferentes bloques compuestos que a su vez pueden contener bloques básicos (funciones), pero este no puede estar dentro de un bloque compuesto. A diferencia de las funciones que mencionado antes pueden estar dentro tantos bloques compuestos como sea necesario para poder correr el programa.

```
#include <cache.h>
#undef DEBUG_85
#ifdef DEBUG_85
#define say(a) fprintf(stderr, a)
#define say1(a,b) fprintf(stderr, a, b)
#define say2(a,b,c) fprintf(stderr, a, b, c)
#else
#define say(a) do { /* nothing */ } while (0)
#define say1(a,b) do { /* nothing */ } while (0)
#define say2(a,b,c) do { /* nothing */ } while (0)
#endif
static const char en85[] = {
    '0', '1', '2', '3', '4', '5', '6', '7', '8', '9',
    'A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'I', 'J',
    'K', 'L', 'M', 'N', 'O', 'P', 'Q', 'R', 'S', 'T',
    'U', 'V', 'W', 'X', 'Y', 'Z',
    'a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j',
    'k', 'l', 'm', 'n', 'o', 'p', 'q', 'r', 's', 't',
    'u', 'v', 'w', 'x', 'y', 'z',
    '!', '#', '$', '%', '&', '(', ')', '*', '+', '-',
    ';', '<', '=', '>', '?', '@', '^', '_', '`', '{',
    '|', '}', '~'
```

```

};
static char de85[256];
static void prep_base85(void)
{
    int i;
    if (de85[0] < 'Z')
        return;
    for (i = 0; i < ARRAY_SIZE(en85); i++) {
        int ch = en85[i];
        de85[ch] = i + 1;
    }
}

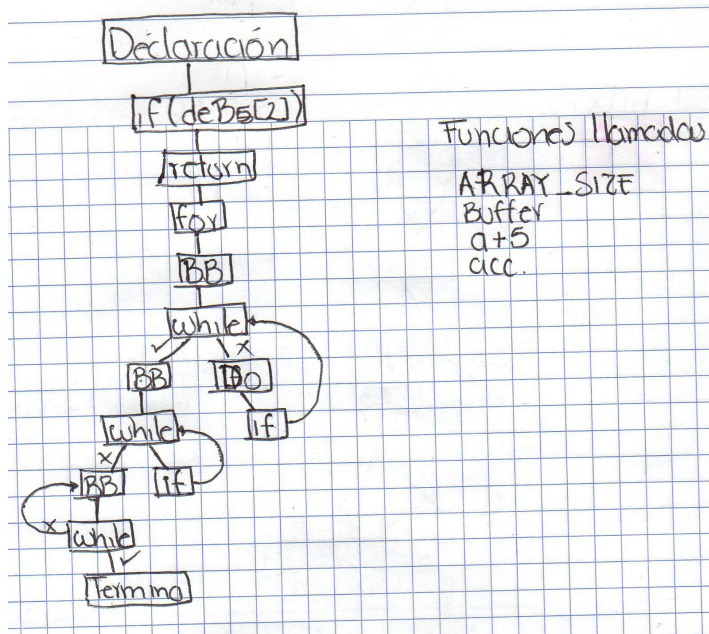
int decode_85(char *dst, const char *buffer, int len)
{
    prep_base85();
    say2("decode 85 %s", len / 4 * 5, buffer);
    while (len) {
        unsigned acc = 0;
        int de, cnt = 4;
        unsigned char ch;
        do {
            ch = *buffer++;
            de = de85[ch];
            if (-- de < 0)
                return error("invalid base85 alphabet %c", ch);
            acc = acc * 85 + de;
        } while (-- cnt);
        ch = *buffer++;
        de = de85[ch];
        if (-- de < 0)
            return error("invalid base85 alphabet %c", ch);
        /* Detect overflow. */
        if (0xffffffff / 85 < acc ||
            0xffffffff - de < (acc * 85))

```

```

        return error("&quot;invalid base85 sequence %.5s&quot;,"
        buffer-5);
    acc += de;
    say1("&quot; %08x&quot;;, acc);
    cnt = (len &lt; 4) ? len : 4;
    len -= cnt;
    do {
        acc = (acc &lt;&lt; 8) | (acc &gt;&gt; 24);
        *dst++ = acc;
    } while (-- cnt);
}
say("&quot;\n&quot;);
return 0;
}

```



```

void encode_85(char *buf, const unsigned char *data, int bytes)
{
    say("encode 85");
    while (bytes) {
        unsigned acc = 0;
        int cnt;
        for (cnt = 24; cnt >= 0; cnt -= 8) {

```

```

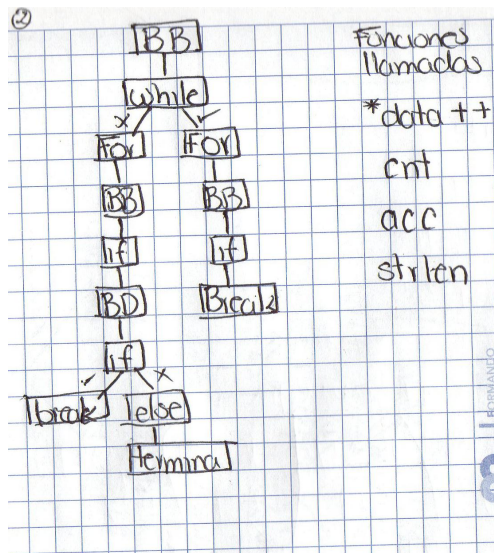
        unsigned ch = *data++;
        acc |= ch << cnt;
        if (--bytes == 0)
            break;
    }
    say1(" %08x", acc);
    for (cnt = 4; cnt >= 0; cnt--) {
        int val = acc % 85;
        acc /= 85;
        buf[cnt] = en85[val];
    }
    buf += 5;
}
say("\n");

*buf = 0;
}

#ifdef DEBUG_85
int main(int ac, char **av)
{
    char buf[1024];

    if (!strcmp(av[1], "-e")) {
        int len = strlen(av[2]);
        encode_85(buf, av[2], len);
        if (len <= 26) len = len + 'A' - 1;
        else len = len + 'a' - 26 - 1;
        printf("encoded: %c%s\n", len, buf);
        return 0;
    }
}

```



```

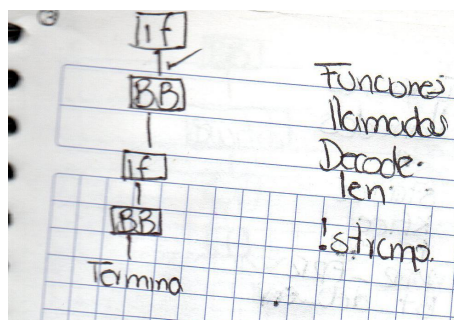
if (!strcmp(av[1], "-d")) {
    int len = *av[2];
    if ('A' <= len && len <= 'Z') len = len - 'A' + 1;
    else len = len - 'a' + 26 + 1;
    decode_85(buf, av[2]+1, len);
    printf("decoded: %.*s\n", len, buf);
    return 0;
}

if (!strcmp(av[1], "-t")) {
    char t[4] = { -1,-1,-1,-1 };
    encode_85(buf, t, 4);
    printf("encoded: D%s\n", buf);
    return 0;
}

}

#endif

```



/\*

\*  
\* Bluetooth support for Broadcom devices  
\*  
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\*  
\*  
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USA

\*  
\*/

```
#include <linux/module.h>  
#include <linux/firmware.h>  
#include <asm/unaligned.h>
```

```
#include <net/bluetooth/bluetooth.h>  
#include <net/bluetooth/hci_core.h>
```

```
#include "btbcm.h"
```

```
#define VERSION "0.1"
```

```
#define BDADDR_BCM20702A0 (&(bdaddr_t) {{0x00, 0xa0, 0x02, 0x70, 0x20,
0x00}})
#define BDADDR_BCM4324B3 (&(bdaddr_t) {{0x00, 0x00, 0x00, 0xb3, 0x24,
0x43}})
#define BDADDR_BCM4330B1 (&(bdaddr_t) {{0x00, 0x00, 0x00, 0xb1, 0x30,
0x43}})
```

```
int btbcm_check_bdaddr(struct hci_dev *hdev)
{
    struct hci_rp_read_bd_addr *bda;
    struct sk_buff *skb;

    skb = __hci_cmd_sync(hdev, HCI_OP_READ_BD_ADDR, 0, NULL,
        HCI_INIT_TIMEOUT);
    if (IS_ERR(skb)) {
        int err = PTR_ERR(skb);
        bt_dev_err(hdev, "BCM: Reading device address failed (%d)", err);
        return err;
    }

    if (skb->len != sizeof(*bda)) {
        bt_dev_err(hdev, "BCM: Device address length mismatch");
        kfree_skb(skb);
        return -EIO;
    }
}
```

```
bda = (struct hci_rp_read_bd_addr *)skb->data;
```

```
/* Check if the address indicates a controller with either an
 * invalid or default address. In both cases the device needs
 * to be marked as not having a valid address.
 *
 * The address 00:20:70:02:A0:00 indicates a BCM20702A0 controller
```



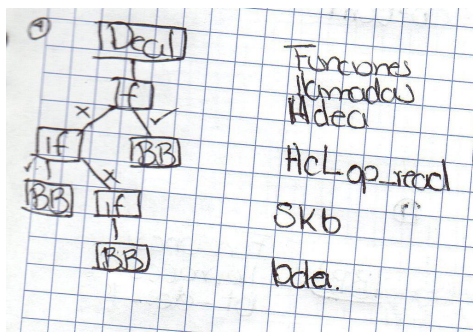
```

* with no configured address.
*
* The address 43:24:B3:00:00:00 indicates a BCM4324B3 controller
* with waiting for configuration state.
*
* The address 43:30:B1:00:00:00 indicates a BCM4330B1 controller
* with waiting for configuration state.
*/
if (!bacmp(&bda->bdaddr, BDADDR_BCM20702A0) ||
    !bacmp(&bda->bdaddr, BDADDR_BCM4324B3) ||
    !bacmp(&bda->bdaddr, BDADDR_BCM4330B1)) {
    bt_dev_info(hdev, "BCM: Using default device address (%pMR)",
                &bda->bdaddr);
    set_bit(HCI_QUIRK_INVALID_BDADDR, &hdev->quirks);
}

kfree_skb(skb);

return 0;
}

```



```

EXPORT_SYMBOL_GPL(btbcm_check_bdaddr);

int btbcm_set_bdaddr(struct hci_dev *hdev, const bdaddr_t *bdaddr)
{
    struct sk_buff *skb;
    int err;

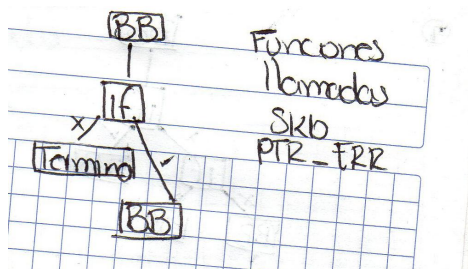
```

```

skb = __hci_cmd_sync(hdev, 0xfc01, 6, bdaddr, HCI_INIT_TIMEOUT);
if (IS_ERR(skb)) {
    err = PTR_ERR(skb);
    bt_dev_err(hdev, "BCM: Change address command failed (%d)", err);
    return err;
}
kfree_skb(skb);

return 0;
}

```



```
EXPORT_SYMBOL_GPL(btbcm_set_bdaddr);
```

```

int btbcm_patchram(struct hci_dev *hdev, const struct firmware *fw)
{
    const struct hci_command_hdr *cmd;
    const u8 *fw_ptr;
    size_t fw_size;
    struct sk_buff *skb;
    u16 opcode;
    int err = 0;

    /* Start Download */
    skb = __hci_cmd_sync(hdev, 0xfc2e, 0, NULL, HCI_INIT_TIMEOUT);
    if (IS_ERR(skb)) {
        err = PTR_ERR(skb);
        bt_dev_err(hdev, "BCM: Download Minidrv command failed (%d)",
            err);
        goto done;
    }
}

```

```

}
kfree_skb(skb);

/* 50 msec delay after Download Minidrv completes */
msleep(50);

fw_ptr = fw->data;
fw_size = fw->size;

while (fw_size >= sizeof(*cmd)) {
    const u8 *cmd_param;

    cmd = (struct hci_command_hdr *)fw_ptr;
    fw_ptr += sizeof(*cmd);
    fw_size -= sizeof(*cmd);

    if (fw_size < cmd->plen) {
        bt_dev_err(hdev, "BCM: Patch is corrupted");
        err = -EINVAL;
        goto done;
    }

    cmd_param = fw_ptr;
    fw_ptr += cmd->plen;
    fw_size -= cmd->plen;

    opcode = le16_to_cpu(cmd->opcode);

    skb = __hci_cmd_sync(hdev, opcode, cmd->plen, cmd_param,
                        HCI_INIT_TIMEOUT);
    if (IS_ERR(skb)) {
        err = PTR_ERR(skb);
        bt_dev_err(hdev, "BCM: Patch command %04x failed (%d)",
                    opcode, err);
    }
}

```

```

        goto done;
    }
    kfree_skb(skb);
}

/* 250 msec delay after Launch Ram completes */
msleep(250);

done:
    return err;
}
EXPORT_SYMBOL(btbcm_patchram);

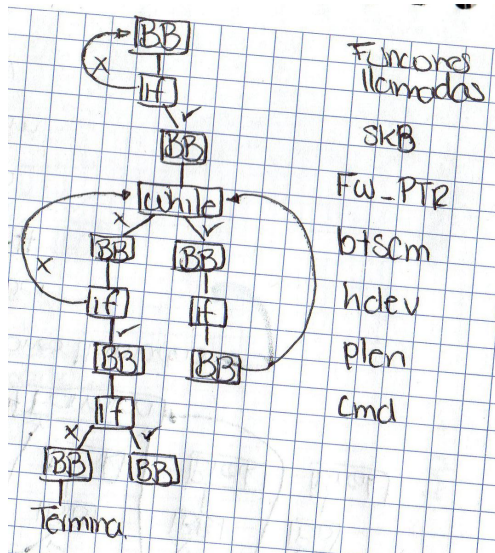
static int btbcm_reset(struct hci_dev *hdev)
{
    struct sk_buff *skb;

    skb = __hci_cmd_sync(hdev, HCI_OP_RESET, 0, NULL,
HCI_INIT_TIMEOUT);
    if (IS_ERR(skb)) {
        int err = PTR_ERR(skb);
        bt_dev_err(hdev, "BCM: Reset failed (%d)", err);
        return err;
    }
    kfree_skb(skb);

    /* 100 msec delay for module to complete reset process */
    msleep(100);

    return 0;
}

```



```
static struct sk_buff *btbcm_read_local_name(struct hci_dev *hdev)
{
    struct sk_buff *skb;

    skb = __hci_cmd_sync(hdev, HCI_OP_READ_LOCAL_NAME, 0, NULL,
                        HCI_INIT_TIMEOUT);

    if (IS_ERR(skb)) {
        bt_dev_err(hdev, "BCM: Reading local name failed (%ld)",
                    PTR_ERR(skb));
        return skb;
    }

    if (skb->len != sizeof(struct hci_rp_read_local_name)) {
        bt_dev_err(hdev, "BCM: Local name length mismatch");
        kfree_skb(skb);
        return ERR_PTR(-EIO);
    }

    return skb;
}
```

```
static struct sk_buff *btbcm_read_local_version(struct hci_dev *hdev)
{
```

```

    struct sk_buff *skb;

    skb = __hci_cmd_sync(hdev, HCI_OP_READ_LOCAL_VERSION, 0,
NULL,
        HCI_INIT_TIMEOUT);
    if (IS_ERR(skb)) {
        bt_dev_err(hdev, "BCM: Reading local version info failed (%ld)",
            PTR_ERR(skb));
        return skb;
    }

    if (skb->len != sizeof(struct hci_rp_read_local_version)) {
        bt_dev_err(hdev, "BCM: Local version length mismatch");
        kfree_skb(skb);
        return ERR_PTR(-EIO);
    }

    return skb;
}

static struct sk_buff *btbcm_read_verbose_config(struct hci_dev *hdev)
{
    struct sk_buff *skb;

    skb = __hci_cmd_sync(hdev, 0xfc79, 0, NULL, HCI_INIT_TIMEOUT);
    if (IS_ERR(skb)) {
        bt_dev_err(hdev, "BCM: Read verbose config info failed (%ld)",
            PTR_ERR(skb));
        return skb;
    }

    if (skb->len != 7) {
        bt_dev_err(hdev, "BCM: Verbose config length mismatch");
        kfree_skb(skb);
    }
}

```

```

        return ERR_PTR(-EIO);
    }

    return skb;
}

static struct sk_buff *btbcm_read_controller_features(struct hci_dev *hdev)
{
    struct sk_buff *skb;

    skb = __hci_cmd_sync(hdev, 0xfc6e, 0, NULL, HCI_INIT_TIMEOUT);
    if (IS_ERR(skb)) {
        bt_dev_err(hdev, "BCM: Read controller features failed (%ld)",
                    PTR_ERR(skb));
        return skb;
    }

    if (skb->len != 9) {
        bt_dev_err(hdev, "BCM: Controller features length mismatch");
        kfree_skb(skb);
        return ERR_PTR(-EIO);
    }

    return skb;
}

static struct sk_buff *btbcm_read_usb_product(struct hci_dev *hdev)
{
    struct sk_buff *skb;

    skb = __hci_cmd_sync(hdev, 0xfc5a, 0, NULL, HCI_INIT_TIMEOUT);
    if (IS_ERR(skb)) {
        bt_dev_err(hdev, "BCM: Read USB product info failed (%ld)",
                    PTR_ERR(skb));
    }

```

```

        return skb;
    }

    if (skb->len != 5) {
        bt_dev_err(hdev, "BCM: USB product length mismatch");
        kfree_skb(skb);
        return ERR_PTR(-EIO);
    }

    return skb;
}

static int btbcm_read_info(struct hci_dev *hdev)
{
    struct sk_buff *skb;

    /* Read Verbose Config Version Info */
    skb = btbcm_read_verbose_config(hdev);
    if (IS_ERR(skb))
        return PTR_ERR(skb);

    bt_dev_info(hdev, "BCM: chip id %u", skb->data[1]);
    kfree_skb(skb);

    /* Read Controller Features */
    skb = btbcm_read_controller_features(hdev);
    if (IS_ERR(skb))
        return PTR_ERR(skb);

    bt_dev_info(hdev, "BCM: features 0x%2.2x", skb->data[1]);
    kfree_skb(skb);

    /* Read Local Name */
    skb = btbcm_read_local_name(hdev);

```



```

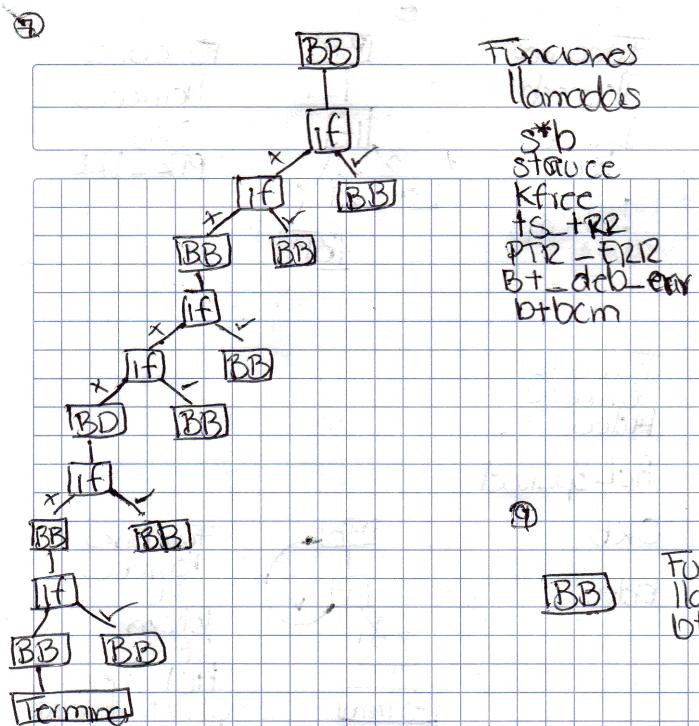
if (IS_ERR(skb))
    return PTR_ERR(skb);

bt_dev_info(hdev, "%s", (char *)(skb->data + 1));

kfree_skb(skb);

return 0;
}

```



```

static const struct {
    u16 subver;
    const char *name;
} bcm_uart_subver_table[] = {
    { 0x4103, "BCM4330B1" }, /* 002.001.003 */
    { 0x410e, "BCM43341B0" }, /* 002.001.014 */
    { 0x4406, "BCM4324B3" }, /* 002.004.006 */
    { 0x610c, "BCM4354" }, /* 003.001.012 */
    { 0x2209, "BCM43430A1" }, /* 001.002.009 */
    { 0x6119, "BCM4345C0" }, /* 003.001.025 */
    { 0x230f, "BCM4356A2" }, /* 001.003.015 */
    {}
}

```

```
};
```

```
int btbcm_initialize(struct hci_dev *hdev, char *fw_name, size_t len)
```

```
{
```

```
    u16 subver, rev;
```

```
    const char *hw_name = NULL;
```

```
    struct sk_buff *skb;
```

```
    struct hci_rp_read_local_version *ver;
```

```
    int i, err;
```

```
    /* Reset */
```

```
    err = btbcm_reset(hdev);
```

```
    if (err)
```

```
        return err;
```

```
    /* Read Local Version Info */
```

```
    skb = btbcm_read_local_version(hdev);
```

```
    if (IS_ERR(skb))
```

```
        return PTR_ERR(skb);
```

```
    ver = (struct hci_rp_read_local_version *)skb->data;
```

```
    rev = le16_to_cpu(ver->hci_rev);
```

```
    subver = le16_to_cpu(ver->imp_subver);
```

```
    kfree_skb(skb);
```

```
    /* Read controller information */
```

```
    err = btbcm_read_info(hdev);
```

```
    if (err)
```

```
        return err;
```

```
    switch ((rev & 0xf000) >> 12) {
```

```
    case 0:
```

```
    case 1:
```

```
    case 2:
```

case 3:

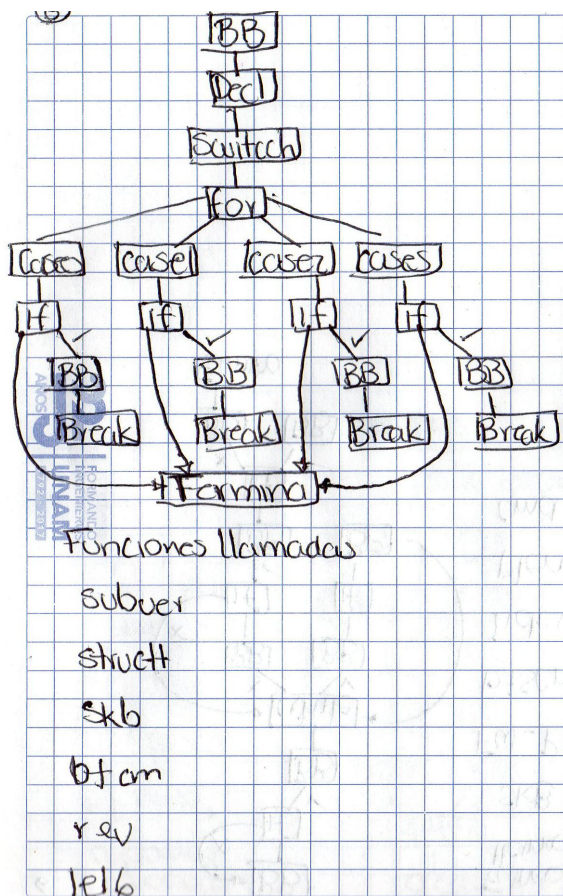
```
for (i = 0; bcm_uart_subver_table[i].name; i++) {  
    if (subver == bcm_uart_subver_table[i].subver) {  
        hw_name = bcm_uart_subver_table[i].name;  
        break;  
    }  
}
```

```
snprintf(fw_name, len, "bcm/%s.hcd", hw_name ? : "BCM");  
break;
```

default:

```
return 0;
```

```
}
```

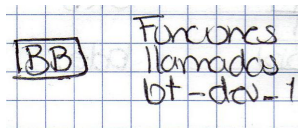


```
bt_dev_info(hdev, "%s (%3.3u.%3.3u.%3.3u) build %4.4u",  
            hw_name ? : "BCM", (subver & 0xe000) >> 13,  
            (subver & 0x1f00) >> 8, (subver & 0x00ff), rev & 0x0fff);
```

```

    return 0;
}

```



```
EXPORT_SYMBOL_GPL(btbcm_initialize);
```

```

int btbcm_finalize(struct hci_dev *hdev)
{
    struct sk_buff *skb;
    struct hci_rp_read_local_version *ver;
    u16 subver, rev;
    int err;

    /* Reset */
    err = btbcm_reset(hdev);
    if (err)
        return err;

    /* Read Local Version Info */
    skb = btbcm_read_local_version(hdev);
    if (IS_ERR(skb))
        return PTR_ERR(skb);

    ver = (struct hci_rp_read_local_version *)skb->data;
    rev = le16_to_cpu(ver->hci_rev);
    subver = le16_to_cpu(ver->lmp_subver);
    kfree_skb(skb);

    bt_dev_info(hdev, "BCM (%3.3u.%3.3u.%3.3u) build %4.4u",
        (subver & 0xe000) >> 13, (subver & 0x1f00) >> 8,
        (subver & 0x00ff), rev & 0x0fff);

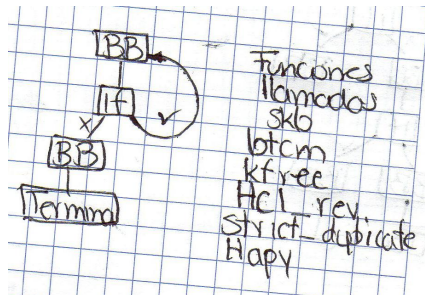
    btbcm_check_bdaddr(hdev);
}

```

```
set_bit(HCI_QUIRK_STRICT_DUPLICATE_FILTER, &hdev->quirks);
```

```
return 0;
```

```
}
```



```
EXPORT_SYMBOL_GPL(btbcm_finalize);
```

```
static const struct {
```

```
    u16 subver;
```

```
    const char *name;
```

```
} bcm_usb_subver_table[] = {
```

```
    { 0x210b, "BCM43142A0" }, /* 001.001.011 */
```

```
    { 0x2112, "BCM4314A0" }, /* 001.001.018 */
```

```
    { 0x2118, "BCM20702A0" }, /* 001.001.024 */
```

```
    { 0x2126, "BCM4335A0" }, /* 001.001.038 */
```

```
    { 0x220e, "BCM20702A1" }, /* 001.002.014 */
```

```
    { 0x230f, "BCM4354A2" }, /* 001.003.015 */
```

```
    { 0x4106, "BCM4335B0" }, /* 002.001.006 */
```

```
    { 0x410e, "BCM20702B0" }, /* 002.001.014 */
```

```
    { 0x6109, "BCM4335C0" }, /* 003.001.009 */
```

```
    { 0x610c, "BCM4354" }, /* 003.001.012 */
```

```
    {}
```

```
};
```

```
int btbcm_setup_patchram(struct hci_dev *hdev)
```

```
{
```

```
    char fw_name[64];
```

```
    const struct firmware *fw;
```

```

u16 subver, rev, pid, vid;
const char *hw_name = NULL;
struct sk_buff *skb;
struct hci_rp_read_local_version *ver;
int i, err;

/* Reset */
err = btbcm_reset(hdev);
if (err)
    return err;

/* Read Local Version Info */
skb = btbcm_read_local_version(hdev);
if (IS_ERR(skb))
    return PTR_ERR(skb);

ver = (struct hci_rp_read_local_version *)skb->data;
rev = le16_to_cpu(ver->hci_rev);
subver = le16_to_cpu(ver->lmp_subver);
kfree_skb(skb);

/* Read controller information */
err = btbcm_read_info(hdev);
if (err)
    return err;

switch ((rev & 0xf000) >> 12) {
case 0:
case 3:
    for (i = 0; bcm_uart_subver_table[i].name; i++) {
        if (subver == bcm_uart_subver_table[i].subver) {
            hw_name = bcm_uart_subver_table[i].name;
            break;
        }
    }

```

```

    }

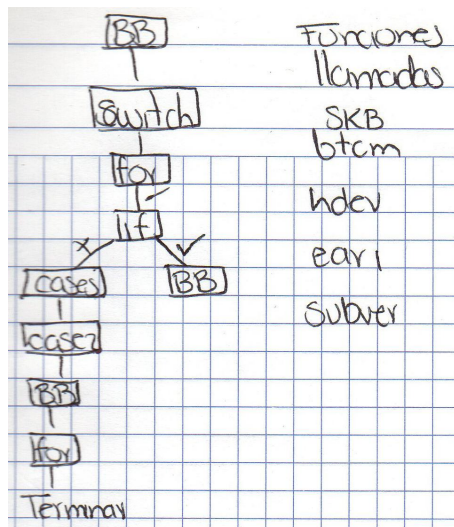
    snprintf(fw_name, sizeof(fw_name), "bcm/%s.hcd",
             hw_name ? : "BCM");
    break;
case 1:
case 2:
    /* Read USB Product Info */
    skb = btbcm_read_usb_product(hdev);
    if (IS_ERR(skb))
        return PTR_ERR(skb);

    vid = get_unaligned_le16(skb->data + 1);
    pid = get_unaligned_le16(skb->data + 3);
    kfree_skb(skb);

    for (i = 0; bcm_usb_subver_table[i].name; i++) {
        if (subver == bcm_usb_subver_table[i].subver) {
            hw_name = bcm_usb_subver_table[i].name;
            break;
        }
    }

    snprintf(fw_name, sizeof(fw_name), "bcm/%s-%4.4x-%4.4x.hcd",
             hw_name ? : "BCM", vid, pid);
    break;
default:
    return 0;
}

```



```

bt_dev_info(hdev, "%s (%3.3u.%3.3u.%3.3u) build %4.4u",
            hw_name ? : "BCM", (subver & 0xe000) >> 13,
            (subver & 0x1f00) >> 8, (subver & 0x00ff), rev & 0x0fff);

```

```

err = request_firmware(&fw, fw_name, &hdev->dev);
if (err < 0) {
    bt_dev_info(hdev, "BCM: Patch %s not found", fw_name);
    goto done;
}

```

```

btbcm_patchram(hdev, fw);

```

```

release_firmware(fw);

```

```

/* Reset */

```

```

err = btbcm_reset(hdev);

```

```

if (err)
    return err;

```

```

/* Read Local Version Info */

```

```

skb = btbcm_read_local_version(hdev);

```

```

if (IS_ERR(skb))
    return PTR_ERR(skb);

```



```

ver = (struct hci_rp_read_local_version *)skb->data;
rev = le16_to_cpu(ver->hci_rev);
subver = le16_to_cpu(ver->imp_subver);
kfree_skb(skb);

bt_dev_info(hdev, "%s (%3.3u.%3.3u.%3.3u) build %4.4u",
            hw_name ? : "BCM", (subver & 0xe000) >> 13,
            (subver & 0x1f00) >> 8, (subver & 0x00ff), rev & 0x0fff);

/* Read Local Name */
skb = btbcm_read_local_name(hdev);
if (IS_ERR(skb))
    return PTR_ERR(skb);

bt_dev_info(hdev, "%s", (char *)(skb->data + 1));
kfree_skb(skb);

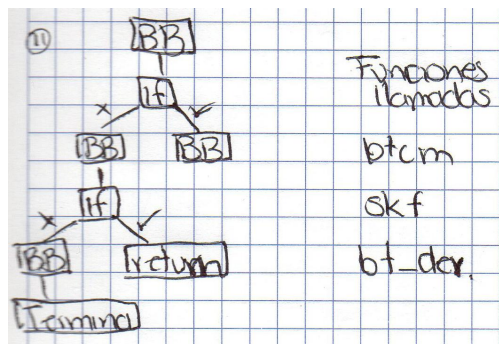
done:

btbcm_check_bdaddr(hdev);

set_bit(HCI_QUIRK_STRICT_DUPLICATE_FILTER, &hdev->quirks);

return 0;
}

```



```
EXPORT_SYMBOL_GPL(btbcm_setup_patchram);
```

```
int btbcm_setup_apple(struct hci_dev *hdev)
```

```

{
    struct sk_buff *skb;
    int err;

    /* Reset */
    err = btbcm_reset(hdev);
    if (err)
        return err;

    /* Read Verbose Config Version Info */
    skb = btbcm_read_verbose_config(hdev);
    if (!IS_ERR(skb)) {
        bt_dev_info(hdev, "BCM: chip id %u build %4.4u",
                     skb->data[1], get_unaligned_le16(skb->data + 5));
        kfree_skb(skb);
    }

    /* Read USB Product Info */
    skb = btbcm_read_usb_product(hdev);
    if (!IS_ERR(skb)) {
        bt_dev_info(hdev, "BCM: product %4.4x:%4.4x",
                     get_unaligned_le16(skb->data + 1),
                     get_unaligned_le16(skb->data + 3));
        kfree_skb(skb);
    }

    /* Read Controller Features */
    skb = btbcm_read_controller_features(hdev);
    if (!IS_ERR(skb)) {
        bt_dev_info(hdev, "BCM: features 0x%2.2x", skb->data[1]);
        kfree_skb(skb);
    }

    /* Read Local Name */

```

```

    skb = btbcm_read_local_name(hdev);
    if (!IS_ERR(skb)) {
        bt_dev_info(hdev, "%s", (char *)(skb->data + 1));
        kfree_skb(skb);
    }

    set_bit(HCI_QUIRK_STRICT_DUPLICATE_FILTER, &hdev->quirks);

    return 0;
}

```

