

```

#include <stdio.h>
#include <ucontext.h>
#include <sys/mman.h>

ucontext_t uc, back;

void assign(long a, int *b)
{
    int i;

    *b = (int)a;

    for (i = 0; i < 3; i++)
        printf("in assign(1): %d\n", i);

    swapcontext(&uc, &back);

    for (i = 10; i < 13; i++)
        printf("in assign(2): %d\n", i);

    swapcontext(&uc, &back);

    for (i = 20; i < 23; i++)
        printf("in assign(3): %d\n", i);
}

```

```

int main(int argc, char **argv)
{
    size_t sz = 0x10000;
    int value = 0;

    getcontext(&back); /* let back be the context of main() */
    getcontext(&uc);

    uc.uc_stack.ss_sp = mmap(0, sz,
        PROT_READ | PROT_WRITE | PROT_EXEC,
        MAP_PRIVATE | MAP_ANON, -1, 0);
    uc.uc_stack.ss_size = sz;
    uc.uc_stack.ss_flags = 0;

    uc.uc_link = &back;

    makecontext(&uc, assign, 2, 107L, &value);
    printf("in main(): 0\n");

    swapcontext(&back, &uc);

    printf("in main(): 1\n");
    swapcontext(&back, &uc);

    printf("in main(): 2\n");
    swapcontext(&back, &uc);

    printf("done %d\n", value);

    return (0);
}

```

```

/* --- output ----
in main(): 0
in assign(1): 0
in assign(1): 1
in assign(1): 2
in main(): 1
in assign(2): 10
in assign(2): 11
in assign(2): 12
in main(): 2
in assign(3): 20
in assign(3): 21
in assign(3): 22
done 107
*/

```