Curso de Assembly x86
64 – Bits

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Instrução call

- **call** <endereço-da-função>
  - Coloca na pilha o endereço imediatamente após o endereço da função.
  - Desvia para o endereço da função (faz o ponteiro de instrução receber o valor do endereço da função).
- **ret**
  - Retira da pilha o endereço que está no topo.
  - Desvia para este endereço (faz o ponteiro de instrução receber esse endereço.

Pilha

- A pilha possui dois ponteiros
  - SP: Aponta para o topo da pilha
  - BP: aponta para a base da pilha
- A instrução **push** coloca um valor na pilha (incrementa ou decrementa sp e coloca um valor na posição apontada por sp)
- A instrução **pop** retira um valor da pilha (incrementa ou decrementa sp e coloca um valor na posição apontada por sp)
- A instrução call coloca um endereço na pilha (endereço para onde a função chamada deve retornar).
- A instrução ret retira um endereço da pilha (endereço para onde a função chamada deve retornar).

Convenção de chamada de funções

- Chamador empilhar os parâmetros
- Chamador chama função
- Função chamada cria as variáveis locais
- Função chamada destrói as variáveis locais
- Função chamada coloca o endereço de retorno na pilha
- Chamador retira o valor retornado da pilha colocado pela função chamada.

Assembly gerado pelo gcc(AT&T) e correspondente no NASM (gnu)

AT&T:

- Constantes começam com $
- Registradores começam com %
- <instrução> destino, fonte
- Labels começam com .

NASM:

- Constantes são definidas com equ (equate).
- Registradores não precisam de %
- <instrução> fonte, destino
- Labels são identificados com :

```
int main(void) {
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
 }
```

```
main:
.LFB0:
    .cfi_startproc
    pushq    %rbp
    .cfi_def_cfa_offset 16
    .cfi_offset 6, -16
    movq     %rsp, %rbp
    .cfi_def_cfa_register 6
    subq     $16, %rsp
    movl     $2, -12(%rbp)
    movl     $3, -8(%rbp)
    movl     -8(%rbp), %edx
    movl     -12(%rbp), %eax
    movl     %edx, %esi
    movl     %eax, %edi
    call  func1
    movl     %eax, -4(%rbp)
    movl     -4(%rbp), %eax
    leave
    .cfi_def_cfa 7, 8
    ret
    .cfi_endproc
```

```
main:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 16
        mov     [rbp-12], 2
        mov     [rbp-8], 3
        mov     edx, [rbp-8]
        mov     eax,[rbp-12]
        mov     esi, edx
        mov     edi, eax
        call    func1
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        leave
        ret
```

```
int main(void) {
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
 }
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```
main:

    pushq   %rbp

    movq    %rsp, %rbp

    subq    $16, %rsp
    movl    $2, -12(%rbp)
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    movl    %edx, %esi
    movl    %eax, %edi
    call    func1
    movl    %eax, -4(%rbp)
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    leave

    ret
```

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    push    rbp
    mov     rbp, rsp
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    mov     esi, edx
    mov     edi, eax
    call    func1
    mov     [rbp-4], eax
    mov     eax, [rbp-4]
    leave
    ret
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        movl    %edx, %esi
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        movl    %eax, -4(%rbp)
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        ret
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        mov     esi, edx
        mov     edi, eax
        call    func1
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
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        ret
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        movl    %edx, %esi
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        mov     edi, eax
        call    func1
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
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        ret
```
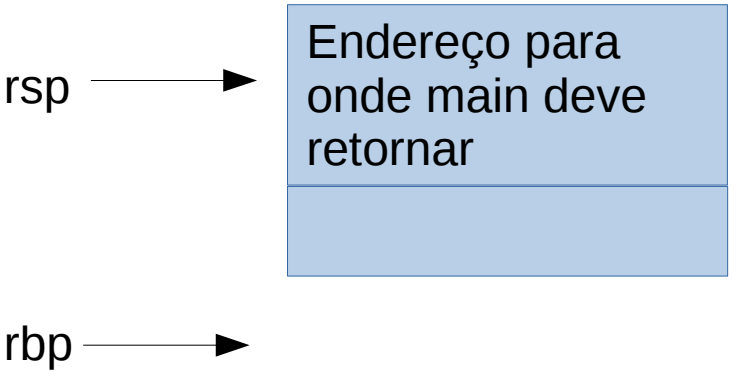

```c
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
main:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 16
        mov     [rbp-12], 2
        mov     [rbp-8], 3
        mov     edx, [rbp-8]
        mov     eax,[rbp-12]
        mov     esi, edx
        mov     edi, eax
        call    func1
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        leave
        ret
```



```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

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main:
        push    rbp
        mov     rbp, rsp
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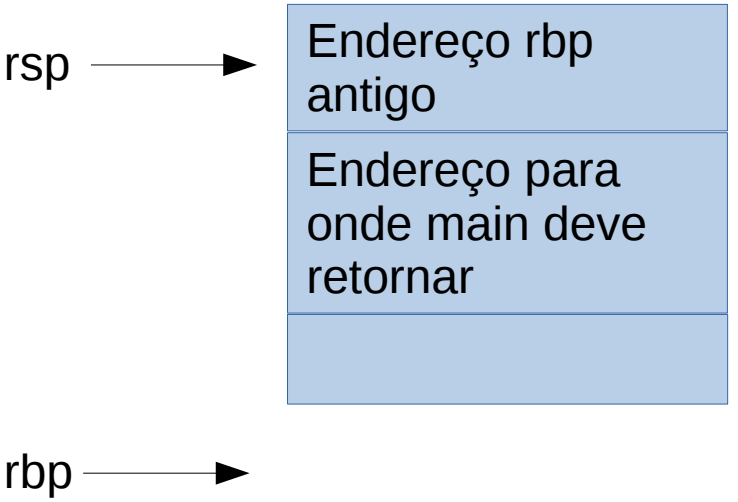
        mov     [rbp-12], 2
        mov     [rbp-8], 3
        mov     edx, [rbp-8]
        mov     eax,[rbp-12]
        mov     esi, edx
        mov     edi, eax
        call    func1
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        leave
        ret
```



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int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

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main:
        push    rbp
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        mov     [rbp-12], 2
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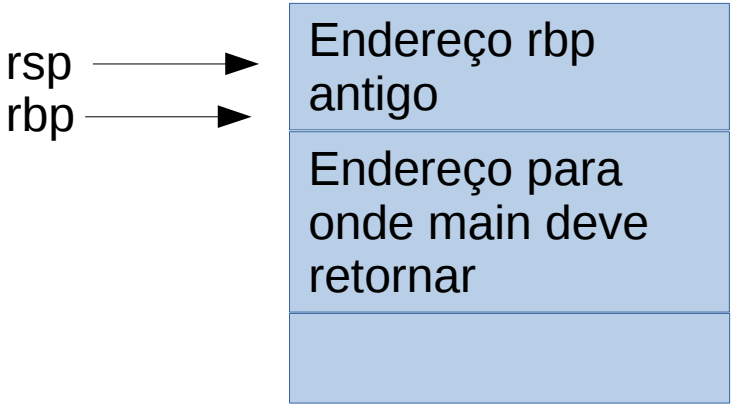
        mov     eax,[rbp-12]
        mov     esi, edx
        mov     edi, eax
        call    func1
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        leave
        ret
```



```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
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     int c,d;
     c = a+b;
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}

int func2(int g)
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  int e = g+2;
  return e*e;
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```

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        push    rbp
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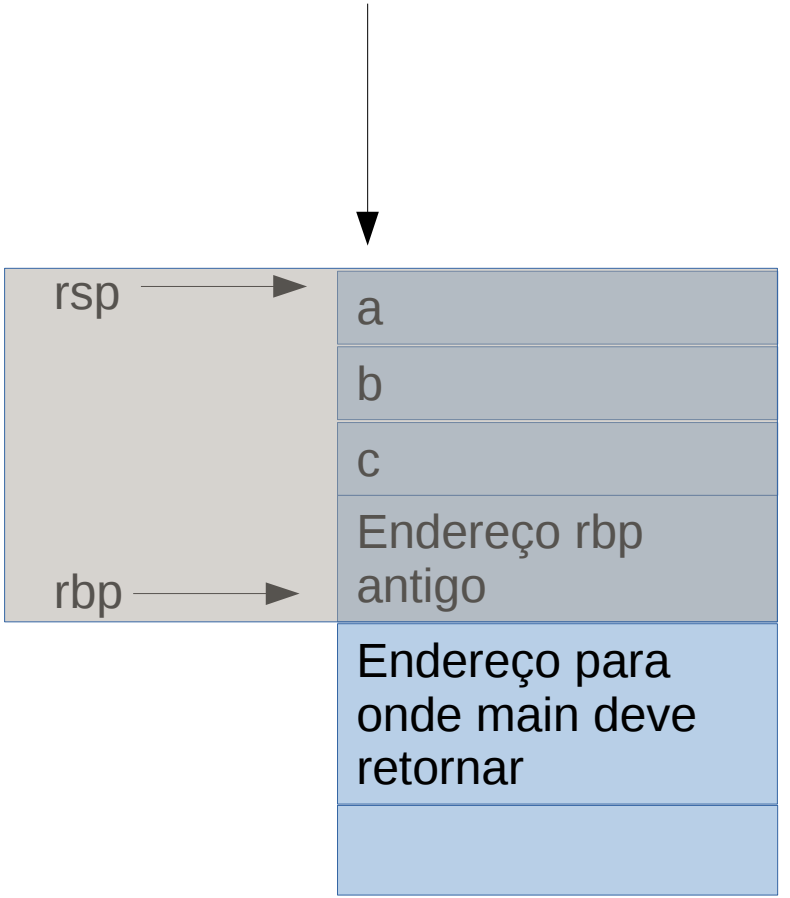
        mov     edx, [rbp-8]
        mov     eax,[rbp-12]
        mov     esi, edx
        mov     edi, eax
        call    func1
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        leave
        ret
```

stack frame para main
(registro de ativação
para função main)



```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

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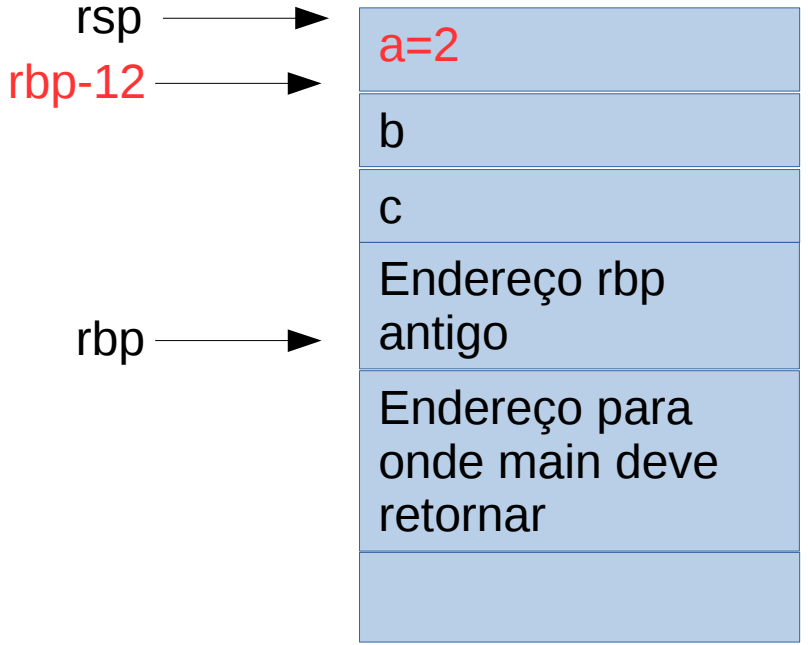
main:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 16
        mov     [rbp-12], 2
        mov     [rbp-8], 3
        mov     edx, [rbp-8]
        mov     eax,[rbp-12]
        mov     esi, edx
        mov     edi, eax
        call    func1
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        leave
        ret
```



```c
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
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int func2(int g)
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  int e = g+2;
  return e*e;
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        push    rbp
        mov     rbp, rsp
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        mov     edi, eax
        call    func1
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        leave
        ret
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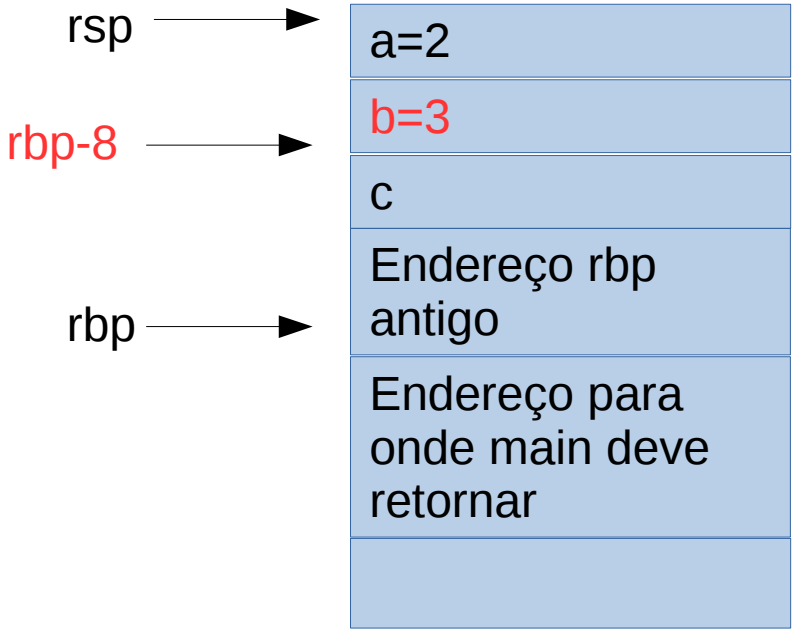

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int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
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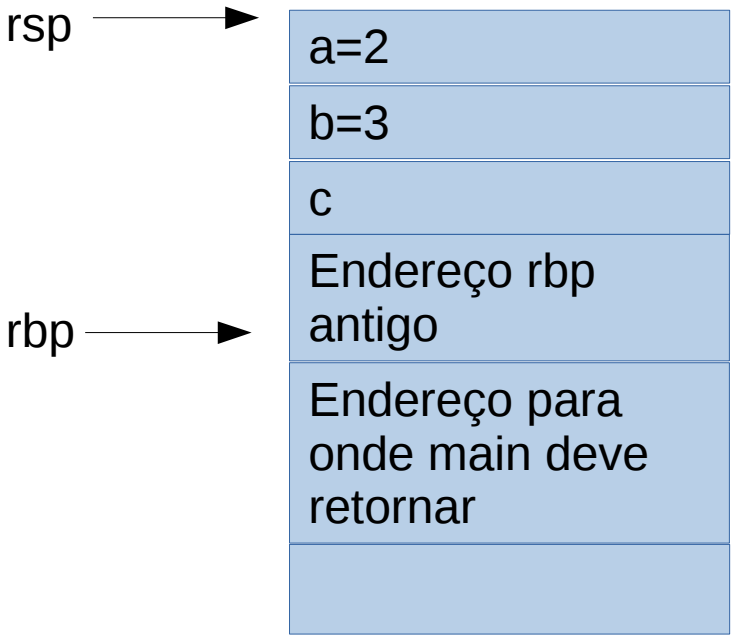

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  }

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        ret
```
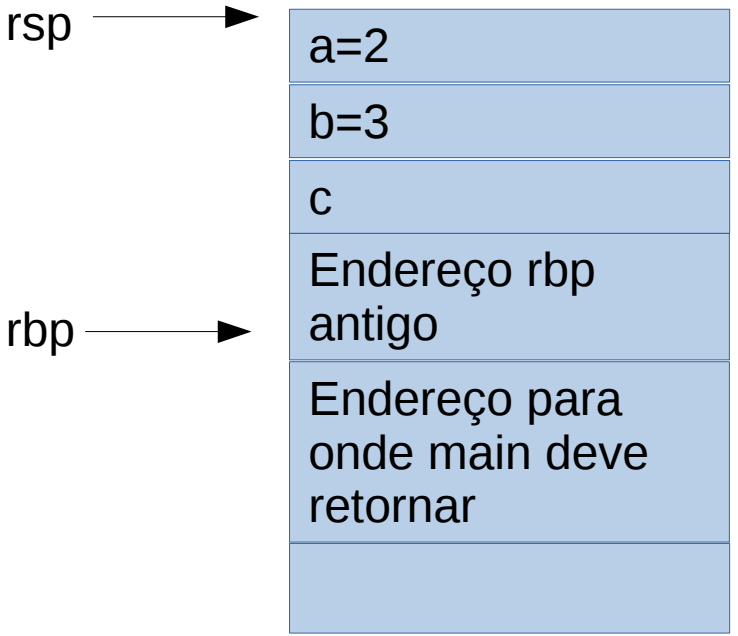
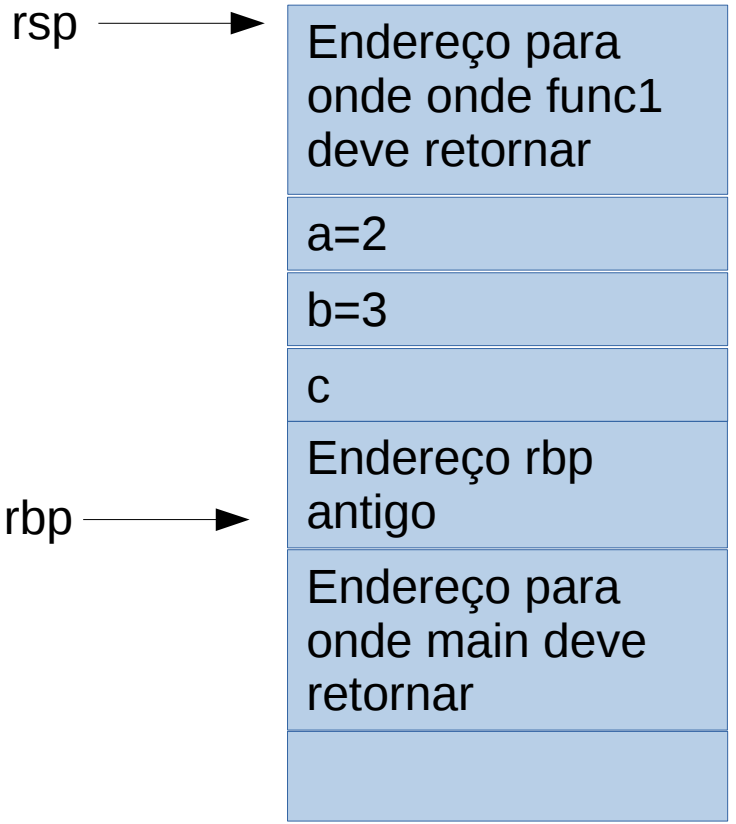



```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
main:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 16
        mov     [rbp-12], 2
        mov     [rbp-8], 3
        mov     edx, [rbp-8]
        mov     eax,[rbp-12]
        mov     esi, edx
        mov     edi, eax
        call    func1
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        leave
        ret
```



```
int func1(int a, int b)
{
    int c,d;
    c = a+b;
    d = func2(c);
    return c+d;
}
```

```
func1:
.LFB1:
        .cfi_startproc
        pushq   %rbp
        .cfi_def_cfa_offset 16
        .cfi_offset 6, -16
        movq    %rsp, %rbp
        .cfi_def_cfa_register 6
        subq $32, %rsp
        movl %edi, -20(%rbp)
        movl %esi, -24(%rbp)
        movl -20(%rbp), %edx
        movl -24(%rbp), %eax
        addl  %edx, %eax
        movl %eax, -8(%rbp)
        movl -8(%rbp), %eax
        movl %eax, %edi
        call   func2
        movl %eax, -4(%rbp)
        movl -8(%rbp), %edx
        movl -4(%rbp), %eax
        addl  %edx, %eax
        leave
        .cfi_def_cfa 7, 8
        ret
        .cfi_endproc
```

```
func1:
        push    rbp
        mov     rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```

```
 int func1(int a, int b)
{
    int c,d;
    c = a+b;
    d = func2(c);
    return c+d;
}
```

```
func1:

        pushq       %rbp


        movq        %rsp, %rbp

        subq $32, %rsp
        movl %edi, -20(%rbp)
        movl %esi, -24(%rbp)
        movl -20(%rbp), %edx
        movl -24(%rbp), %eax
        addl  %edx, %eax
        movl %eax, -8(%rbp)
        movl -8(%rbp), %eax
        movl %eax, %edi
        call   func2
        movl %eax, -4(%rbp)
        movl -8(%rbp), %edx
        movl -4(%rbp), %eax
        addl  %edx, %eax
        leave

        ret
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl   eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```

```
 int func1(int a, int b)
{
    int c,d;
    c = a+b;
    d = func2(c);
    return c+d;
}
```

```
func1:

    pushq     %rbp

    movq      %rsp, %rbp

    subq $32, %rsp
    movl %edi, -20(%rbp)
    movl %esi, -24(%rbp)
    movl -20(%rbp), %edx
    movl -24(%rbp), %eax
    addl  %edx, %eax
    movl %eax, -8(%rbp)
    movl -8(%rbp), %eax
    movl %eax, %edi
    call   func2
    movl %eax, -4(%rbp)
    movl -8(%rbp), %edx
    movl -4(%rbp), %eax
    addl  %edx, %eax
    leave

    ret
```

```
func1:
        push      rbp
        mov       rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```

```
 int func1(int a, int b)
{
    int c,d;
    c = a+b;
    d = func2(c);
    return c+d;
}
```

```
func1:

    pushq       %rbp

    movq        %rsp, %rbp

    subq $32, %rsp
    movl %edi, -20(%rbp)
    movl %esi, -24(%rbp)
    movl -20(%rbp), %edx
    movl -24(%rbp), %eax
    addl  %edx, %eax
    movl %eax, -8(%rbp)
    movl -8(%rbp), %eax
    movl %eax, %edi
    call   func2
    movl %eax, -4(%rbp)
    movl -8(%rbp), %edx
    movl -4(%rbp), %eax
    addl  %edx, %eax
    leave

    ret
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```

Espaço para cópia dos parâmetros e variáveis locais.
32 = (6+**2**)*4

```
int func1(int a, int b)
{
    int c,d;
    c = a+b;
    d = func2(c);
    return c+d;
}
```

```
func1:

    pushq    %rbp

    movq     %rsp, %rbp

    subq $32, %rsp
    movl %edi, -20(%rbp)
    movl %esi, -24(%rbp)
    movl -20(%rbp), %edx
    movl -24(%rbp), %eax
    addl  %edx, %eax
    movl %eax, -8(%rbp)
    movl -8(%rbp), %eax
    movl %eax, %edi
    call   func2
    movl %eax, -4(%rbp)
    movl -8(%rbp), %edx
    movl -4(%rbp), %eax
    addl  %edx, %eax
    leave

    ret
```

```
func1:
        push     rbp
        mov      rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax, [rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```

Salva cópia dos parâmetros passados por valor na pilha.
Não tem código correspondente.

```
 int func1(int a, int b)
{
    int c,d;
    c = a+b;
    d = func2(c);
    return c+d;
}
```

```
func1:

        pushq       %rbp

        movq        %rsp, %rbp

        subq $32, %rsp
        movl %edi, -20(%rbp)
        movl %esi, -24(%rbp)
        movl -20(%rbp), %edx
        movl -24(%rbp), %eax
        addl  %edx, %eax
        movl %eax, -8(%rbp)
        movl -8(%rbp), %eax
        movl %eax, %edi
        call   func2
        movl %eax, -4(%rbp)
        movl -8(%rbp), %edx
        movl -4(%rbp), %eax
        addl  %edx, %eax
        leave

        ret
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl   eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```

```
 int func1(int a, int b)
{
    int c,d;
    c = a+b;
    d = func2(c);
    return c+d;
}
```

```
func1:

    pushq       %rbp

    movq        %rsp, %rbp

    subq $32, %rsp
    movl %edi, -20(%rbp)
    movl %esi, -24(%rbp)
    movl -20(%rbp), %edx
    movl -24(%rbp), %eax
    addl  %edx, %eax
    movl %eax, -8(%rbp)
    movl -8(%rbp), %eax
    movl %eax, %edi
    call   func2
    movl %eax, -4(%rbp)
    movl -8(%rbp), %edx
    movl -4(%rbp), %eax
    addl  %edx, %eax
    leave

    ret
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```

```
int func1(int a, int b)
{
    int c,d;
    c = a+b;
    d = func2(c);
    return c+d;
}
```

```
func1:

    pushq       %rbp

    movq        %rsp, %rbp

    subq $32, %rsp
    movl %edi, -20(%rbp)
    movl %esi, -24(%rbp)
    movl -20(%rbp), %edx
    movl -24(%rbp), %eax
    addl  %edx, %eax
    movl %eax, -8(%rbp)
    movl -8(%rbp), %eax
    movl %eax, %edi
    call   func2
    movl %eax, -4(%rbp)
    movl -8(%rbp), %edx
    movl -4(%rbp), %eax
    addl  %edx, %eax
    leave

    ret
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```

```
 int func1(int a, int b)
{
    int c,d;
    c = a+b;
    d = func2(c);
    return c+d;
}
```

```
func1:

    pushq       %rbp

    movq        %rsp, %rbp

    subq $32, %rsp
    movl %edi, -20(%rbp)
    movl %esi, -24(%rbp)
    movl -20(%rbp), %edx
    movl -24(%rbp), %eax
    addl  %edx, %eax
    movl %eax, -8(%rbp)
    movl -8(%rbp), %eax
    movl %eax, %edi
    call   func2
    movl %eax, -4(%rbp)
    movl -8(%rbp), %edx
    movl -4(%rbp), %eax
    addl  %edx, %eax
    leave

    ret
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```

```
 int func1(int a, int b)
{
    int c,d;
    c = a+b;
    d = func2(c);
    return c+d;
}
```

```
func1:

    pushq       %rbp

    movq        %rsp, %rbp

    subq $32, %rsp
    movl %edi, -20(%rbp)
    movl %esi, -24(%rbp)
    movl -20(%rbp), %edx
    movl -24(%rbp), %eax
    addl  %edx, %eax
    movl %eax, -8(%rbp)
    movl -8(%rbp), %eax
    movl %eax, %edi
    call   func2
    movl %eax, -4(%rbp)
    movl -8(%rbp), %edx
    movl -4(%rbp), %eax
    addl  %edx, %eax
    leave

    ret
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```

```
 int func1(int a, int b)
{
    int c,d;
    c = a+b;
    d = func2(c);
    return c+d;
}
```

```
func1:

        pushq       %rbp

        movq        %rsp, %rbp

        subq $32, %rsp
        movl %edi, -20(%rbp)
        movl %esi, -24(%rbp)
        movl -20(%rbp), %edx
        movl -24(%rbp), %eax
        addl  %edx, %eax
        movl %eax, -8(%rbp)
        movl -8(%rbp), %eax
        movl %eax, %edi
        call   func2
        movl %eax, -4(%rbp)
        movl -8(%rbp), %edx
        movl -4(%rbp), %eax
        addl  %edx, %eax
        leave

        ret
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```

```
 int func1(int a, int b)
{
    int c,d;
    c = a+b;
    d = func2(c);
    return c+d;
}
```

```
func1:

        pushq       %rbp


        movq        %rsp, %rbp

        subq $32, %rsp
        movl %edi, -20(%rbp)
        movl %esi, -24(%rbp)
        movl -20(%rbp), %edx
        movl -24(%rbp), %eax
        addl  %edx, %eax
        movl %eax, -8(%rbp)
        movl -8(%rbp), %eax
        movl %eax, %edi
        call   func2
        movl %eax, -4(%rbp)
        movl -8(%rbp), %edx
        movl -4(%rbp), %eax
        addl  %edx, %eax
        leave

        ret
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```

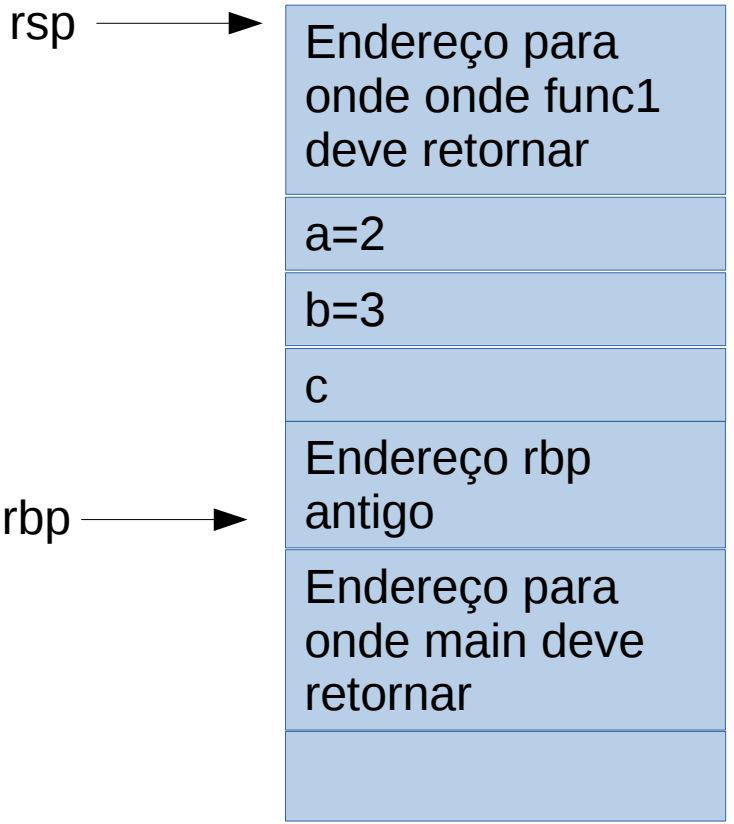
```
int func1(int a, int b)
{
    int c,d;
    c = a+b;
    d = func2(c);
    return c+d;
}
```

```
func1:

    pushq       %rbp

    movq        %rsp, %rbp

    subq $32, %rsp
    movl %edi, -20(%rbp)
    movl %esi, -24(%rbp)
    movl -20(%rbp), %edx
    movl -24(%rbp), %eax
    addl  %edx, %eax
    movl %eax, -8(%rbp)
    movl -8(%rbp), %eax
    movl %eax, %edi
    call   func2
    movl %eax, -4(%rbp)
    movl -8(%rbp), %edx
    movl -4(%rbp), %eax
    addl  %edx, %eax
    leave

    ret
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```

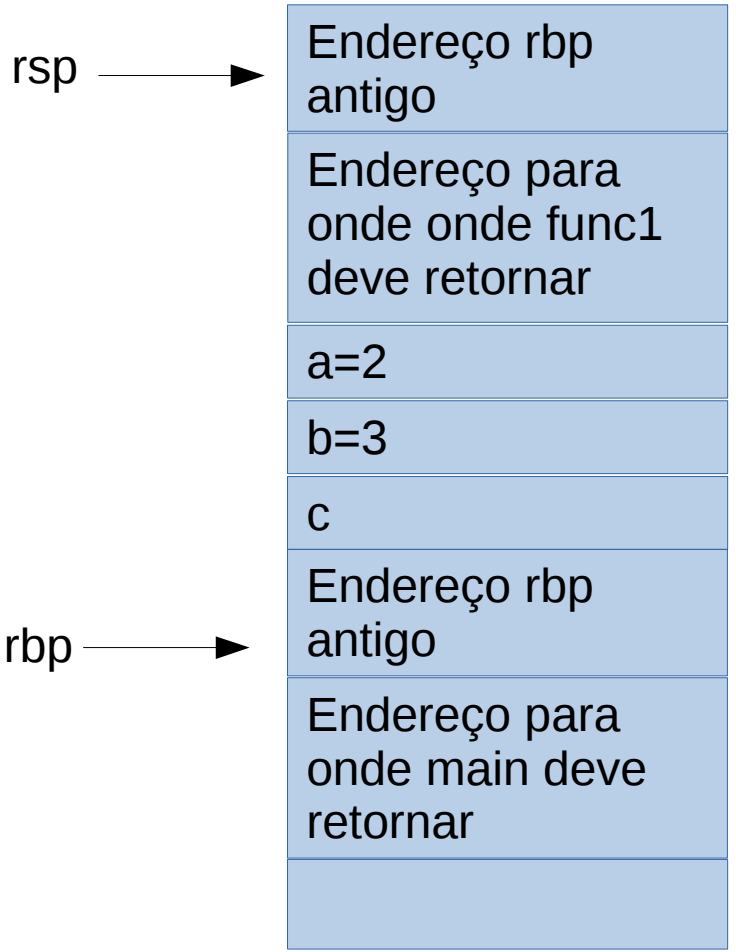
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



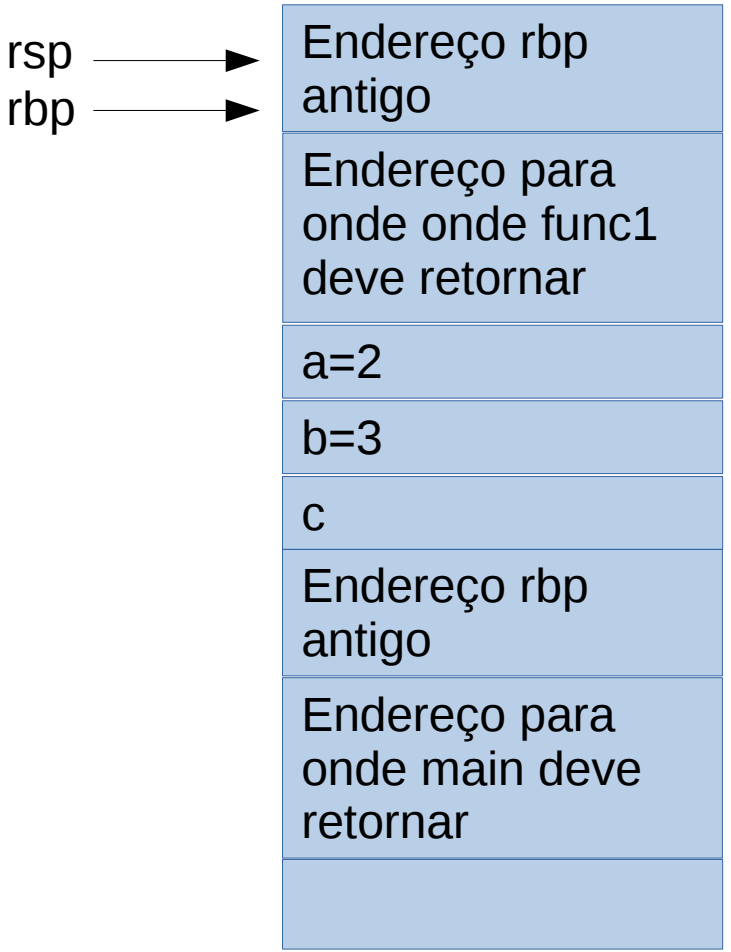
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push    rbp
        mov     rbp, rsp,

        sub     rsp,32
        movl    [rbp-20],edi
        movl    [rbp-24],esi
        movl    edx, [rbp-20]
        movl    eax, [rbp-24]
        addl    eax, edx
        movl    [rbp-8], eax
        movl    eax,[rbp-8]
        movl    edi, eax
        call    func2
        movl    [rbp-4], eax
        movl    edx, [rbp-8]
        movl    eax, [rbp-4]
        addl    eax, edx
        leave

        ret
```



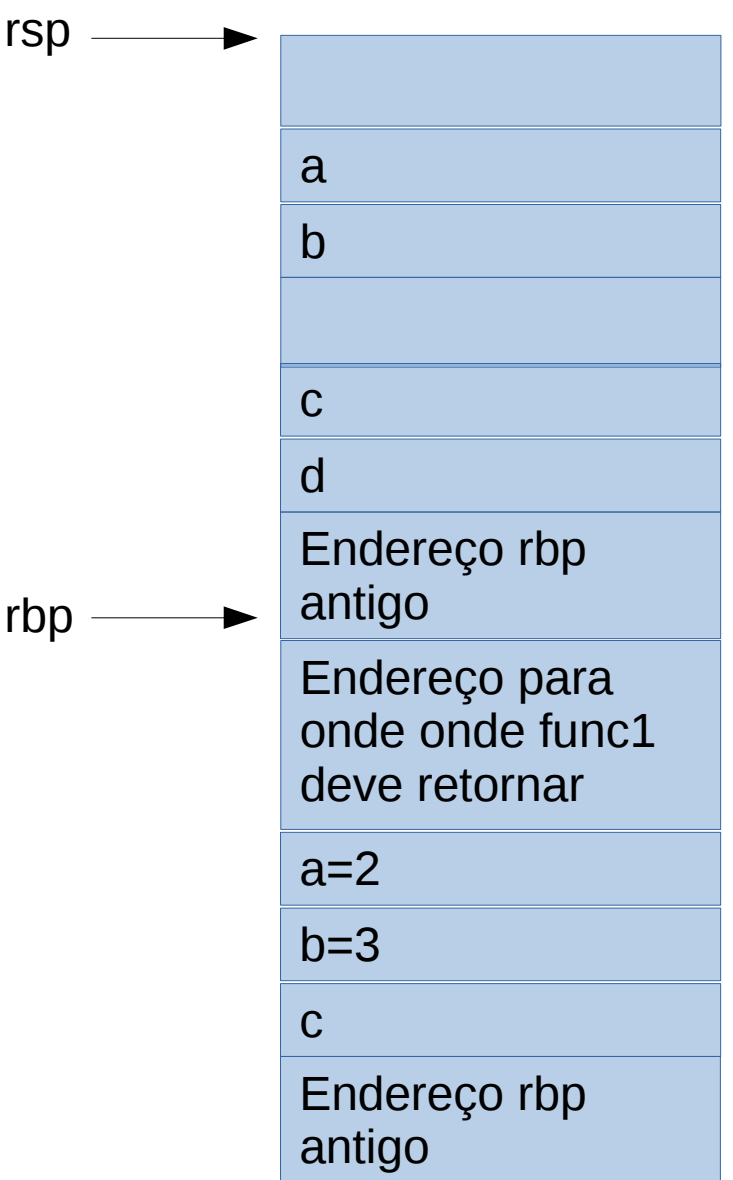
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push    rbp
        mov     rbp, rsp,

        sub     rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



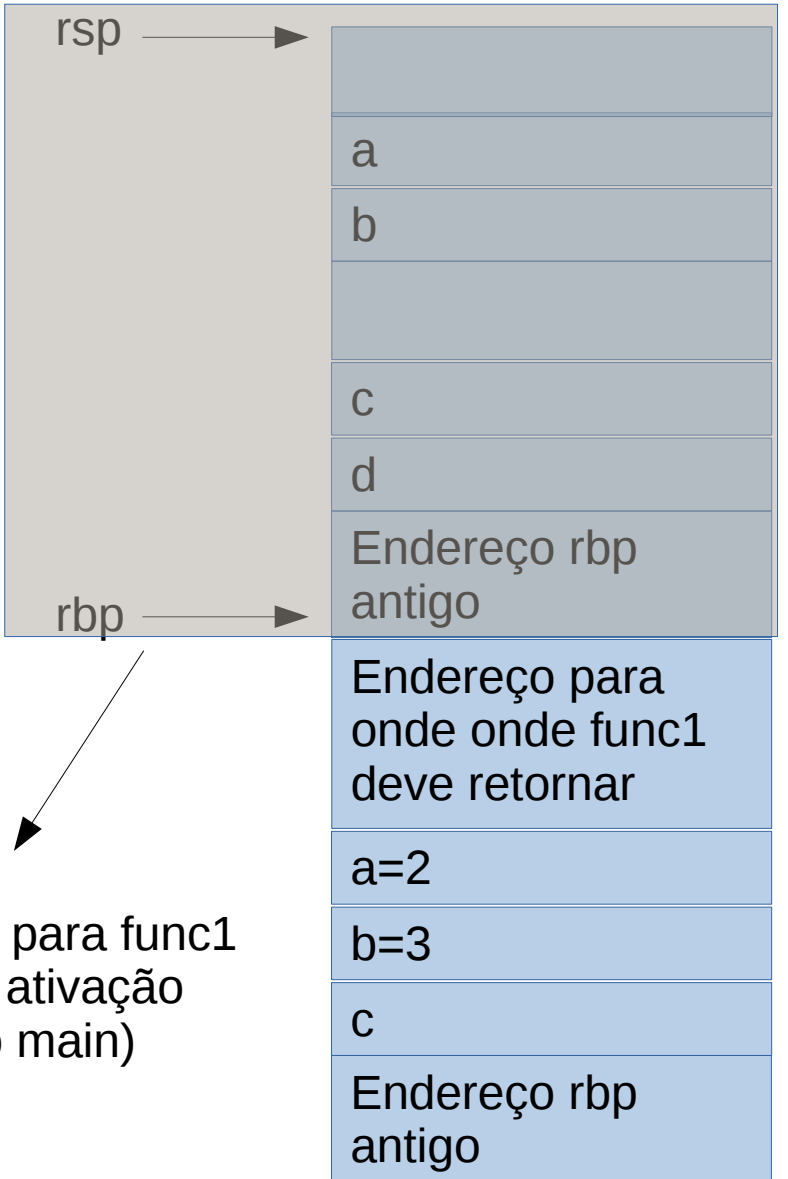
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

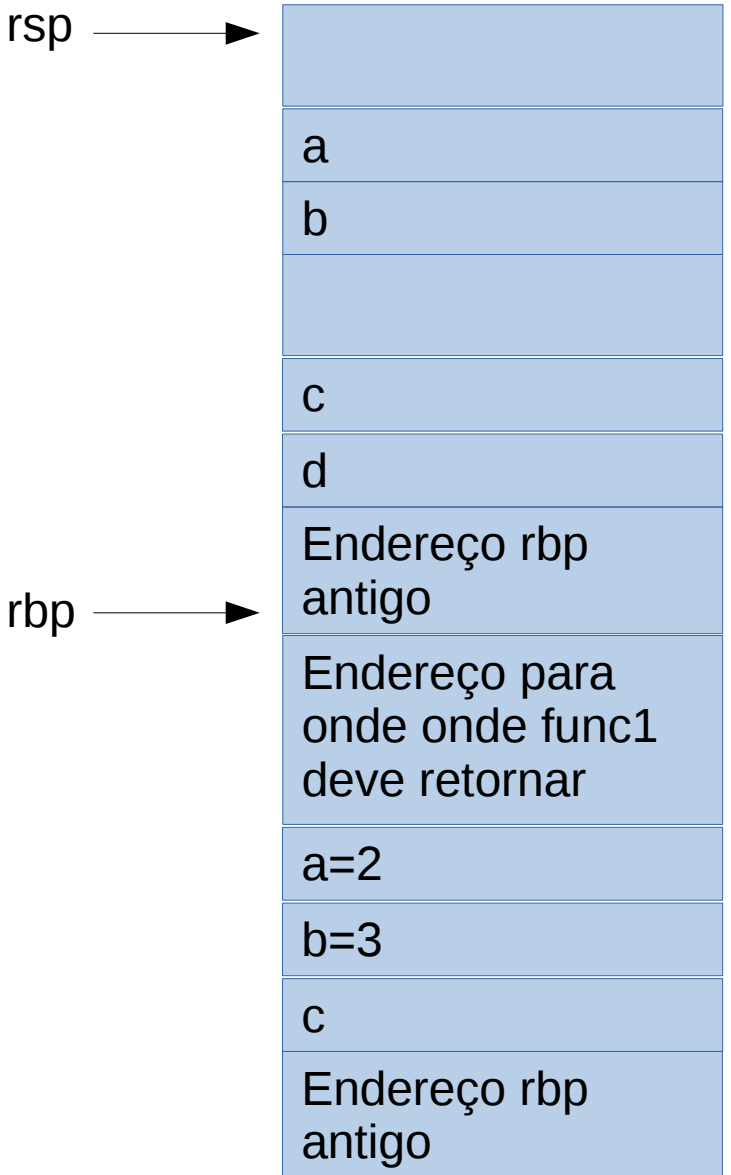
```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



stack frame para func1
(registro de ativação
para função main)

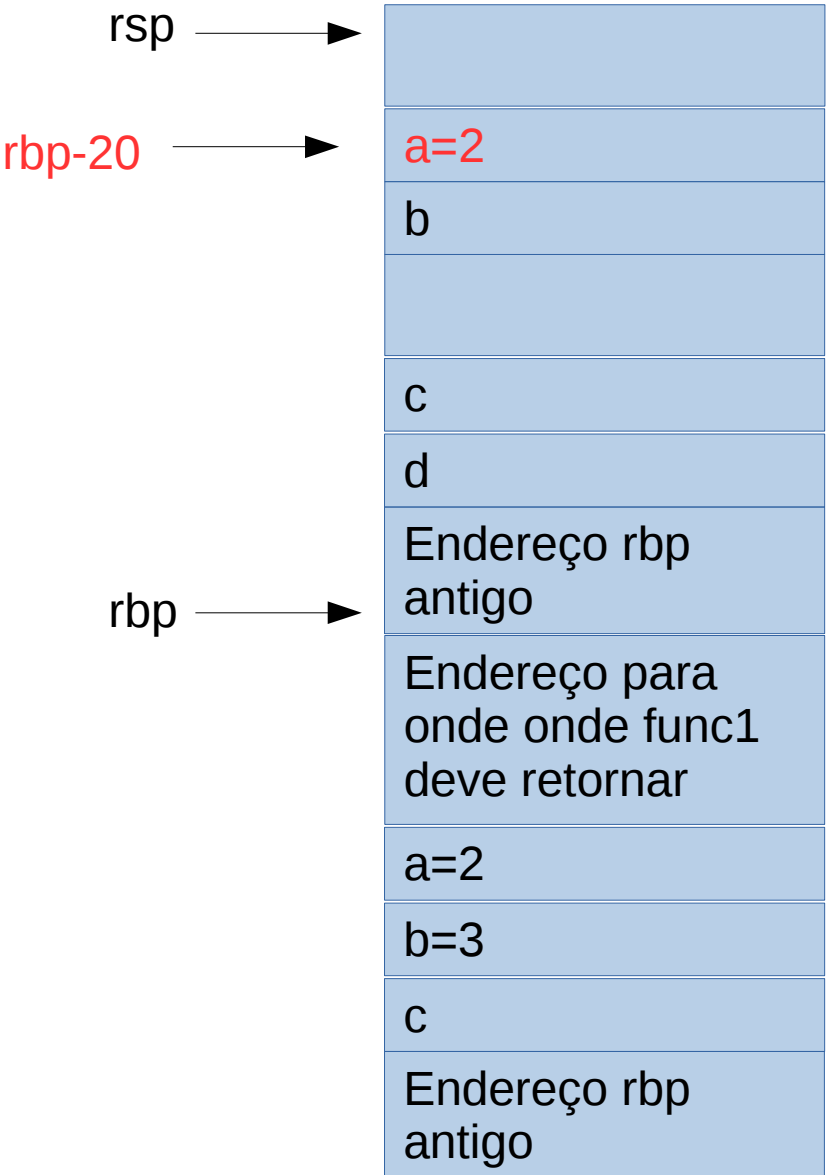
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub     rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



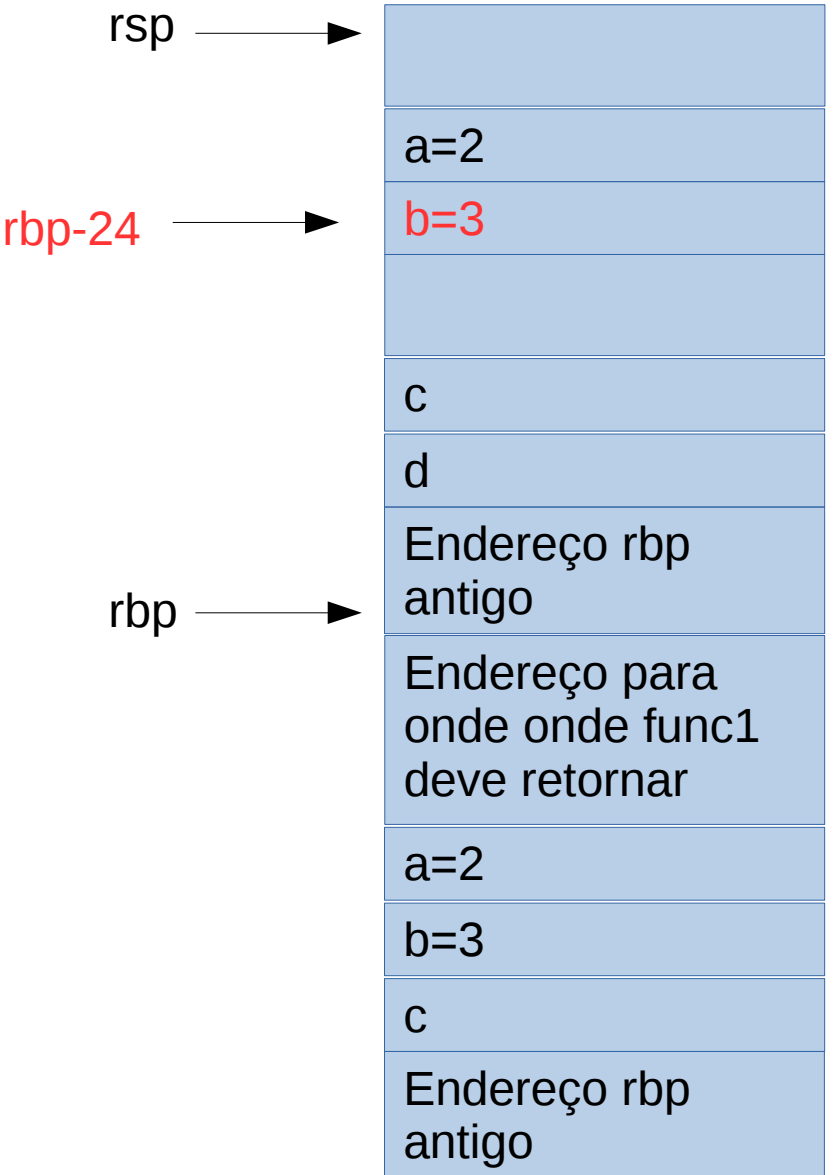
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub     rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



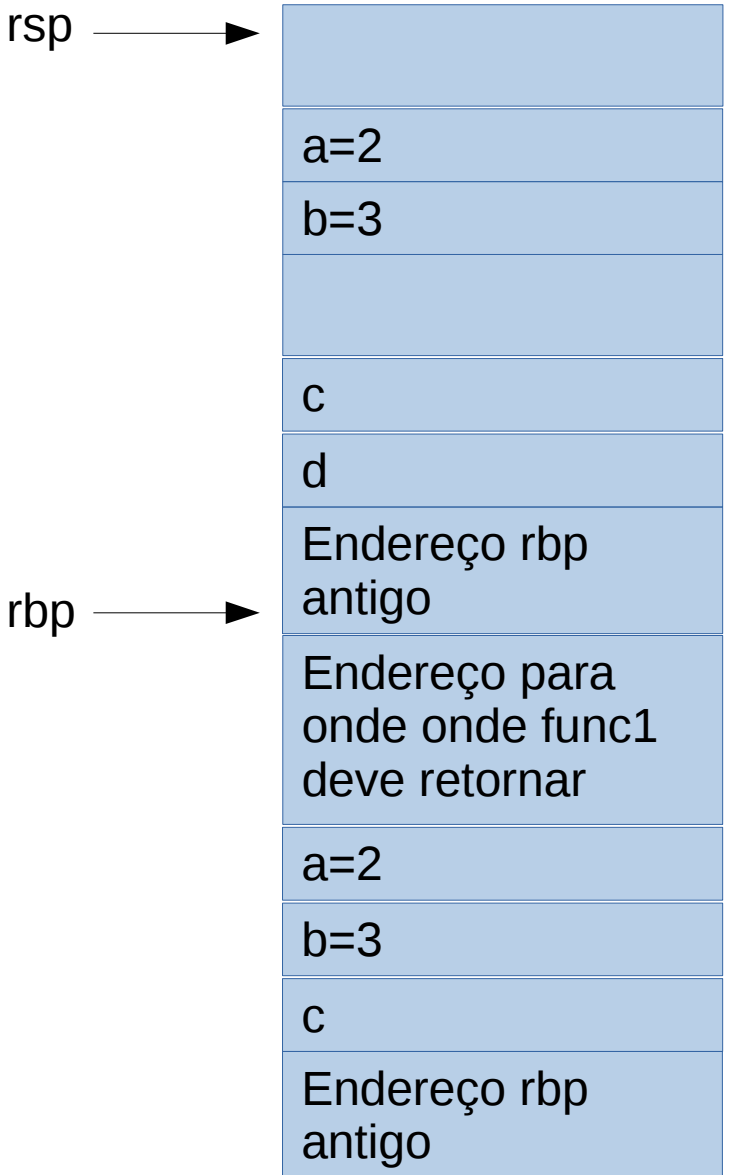
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



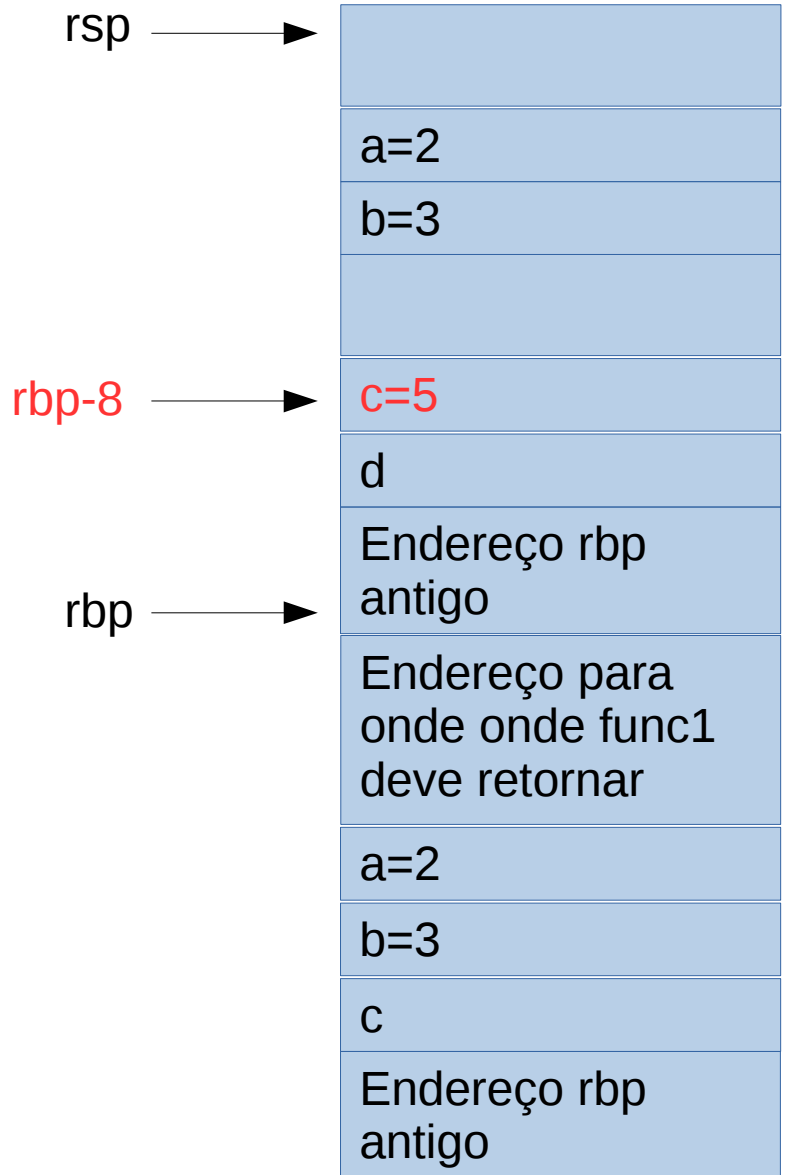
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



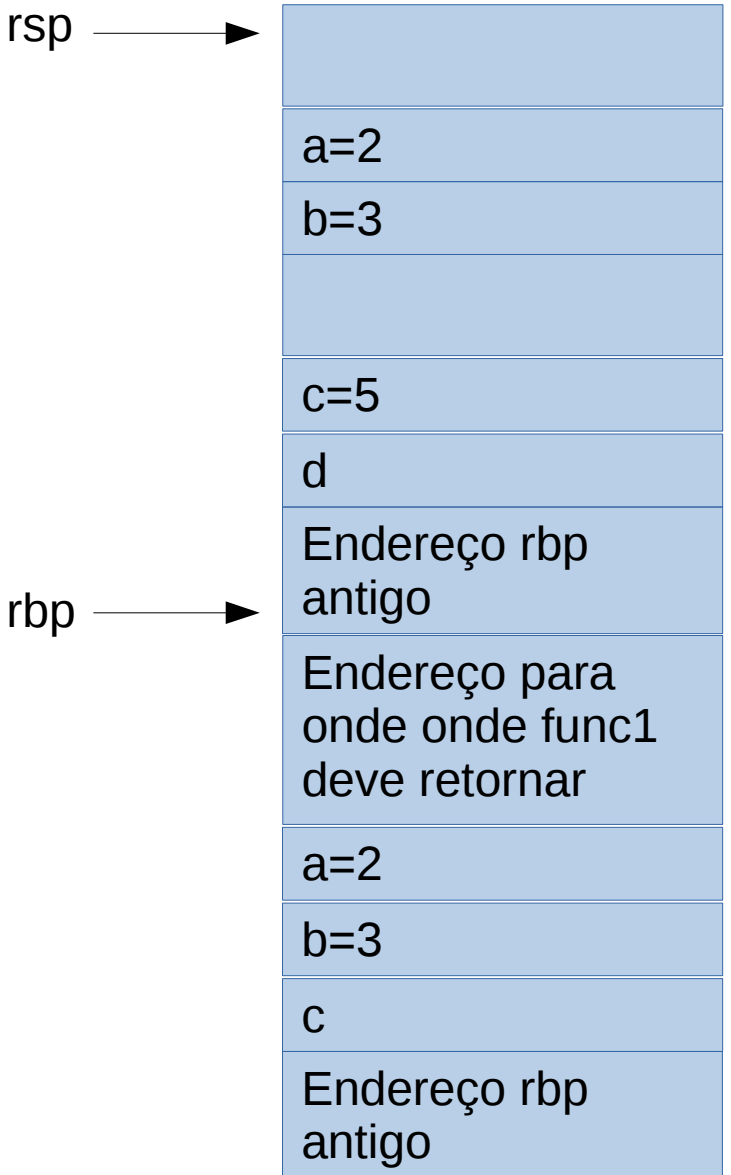
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push    rbp
        mov     rbp, rsp,

        sub     rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



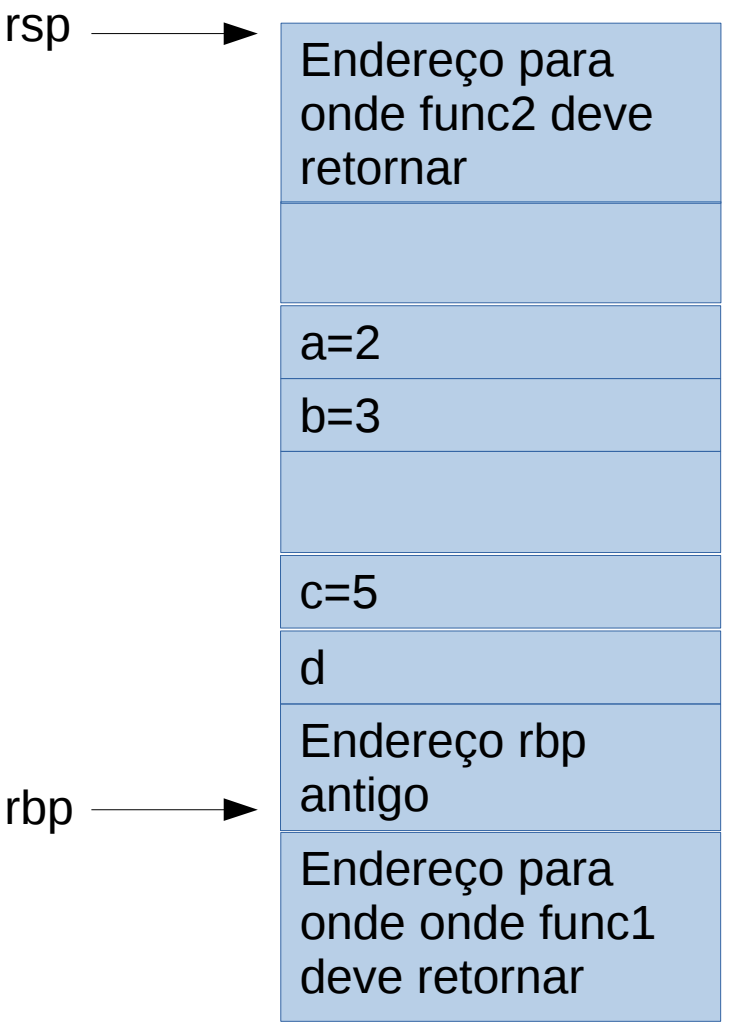
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



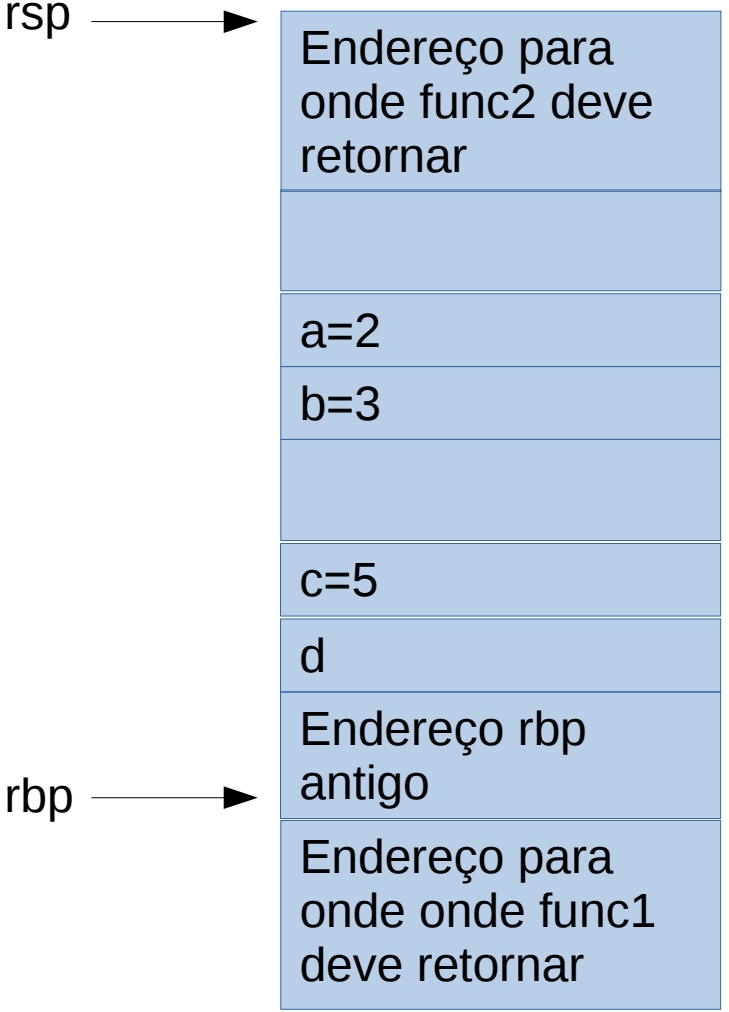
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  eax,[rbp-8]
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



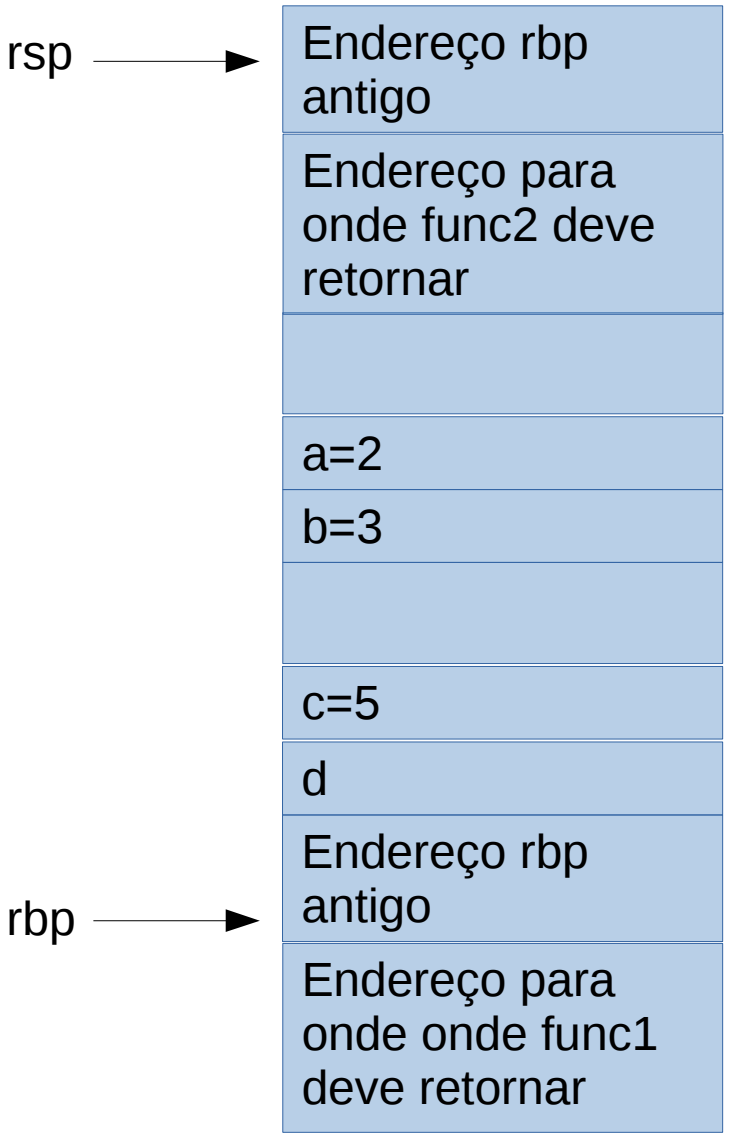
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func2:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 28
        mov     [rbp-20],edi
        mov     eax, [rbp-20]
        add      eax,2
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        imull   eax, [rbp-4]
        leave
        ret
```



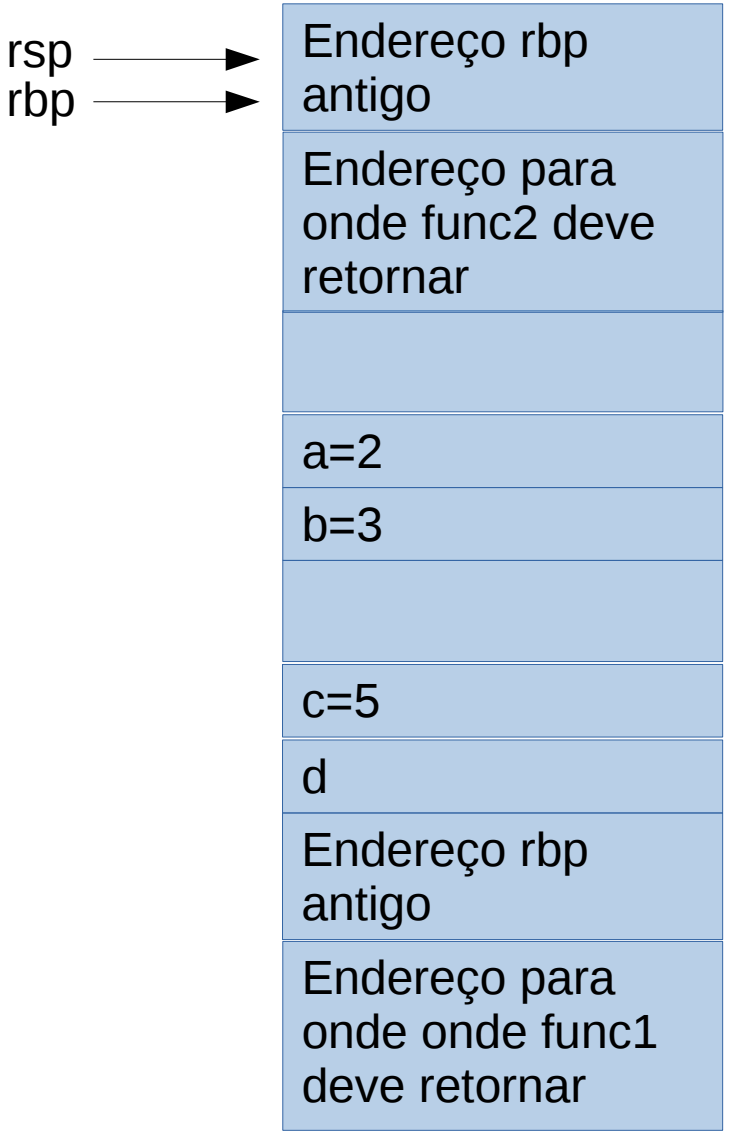
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func2:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 28
        mov     [rbp-20],edi
        mov     eax, [rbp-20]
        add      eax,2
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        imull   eax, [rbp-4]
        leave
        ret
```



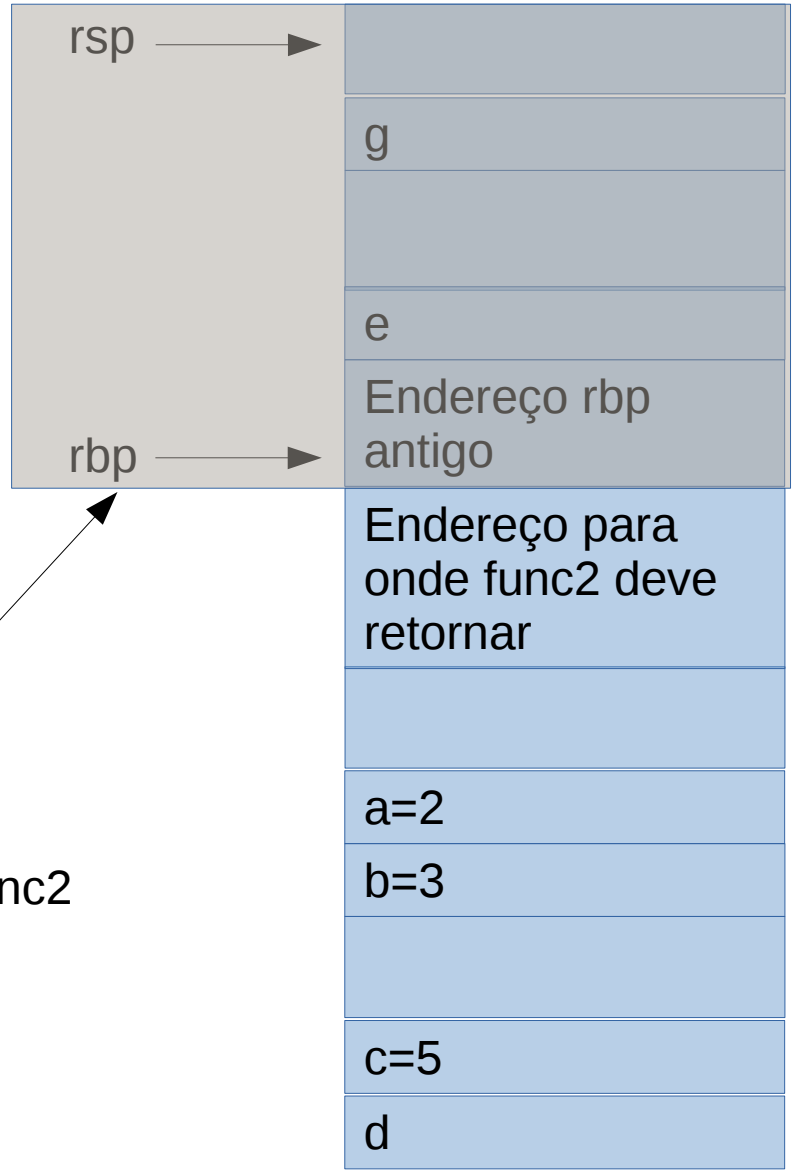
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func2:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 28
        mov     [rbp-20],edi
        mov     eax, [rbp-20]
        add      eax,2
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        imull   eax, [rbp-4]
        leave
        ret
```



```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

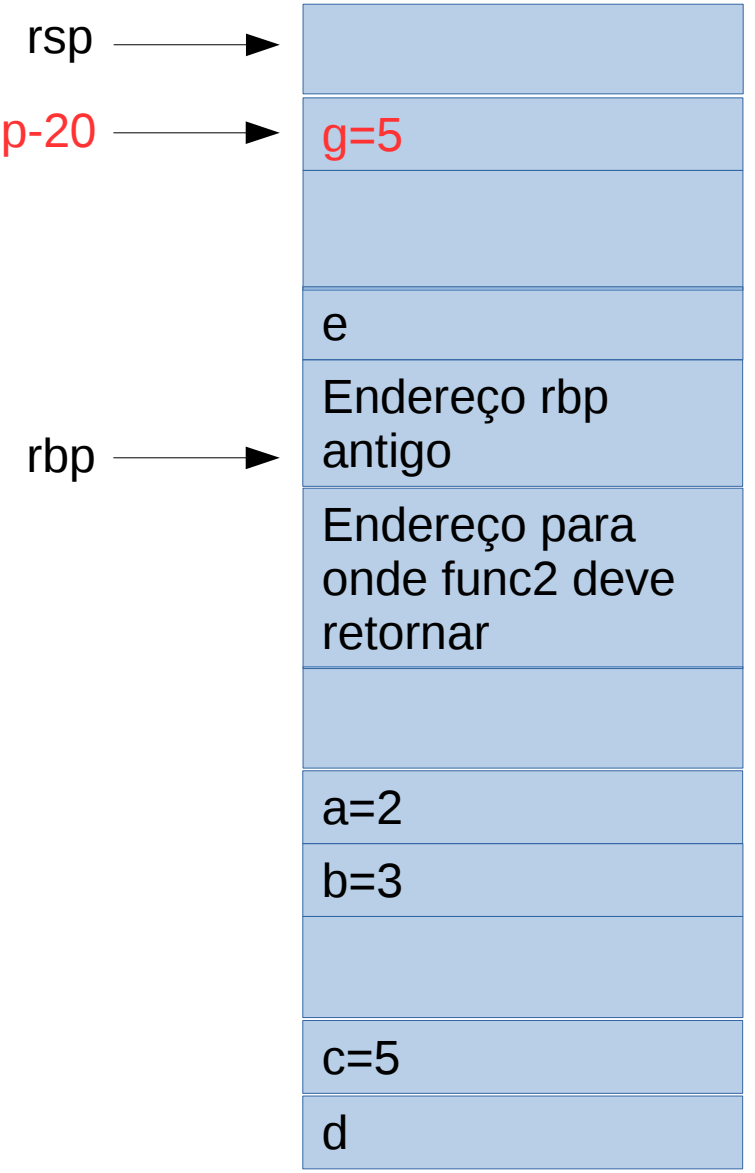
```
func2:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 28
        mov     [rbp-20],edi
        mov     eax, [rbp-20]
        add      eax,2
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        imull   eax, [rbp-4]
        leave
        ret
```



Stack frame para func2

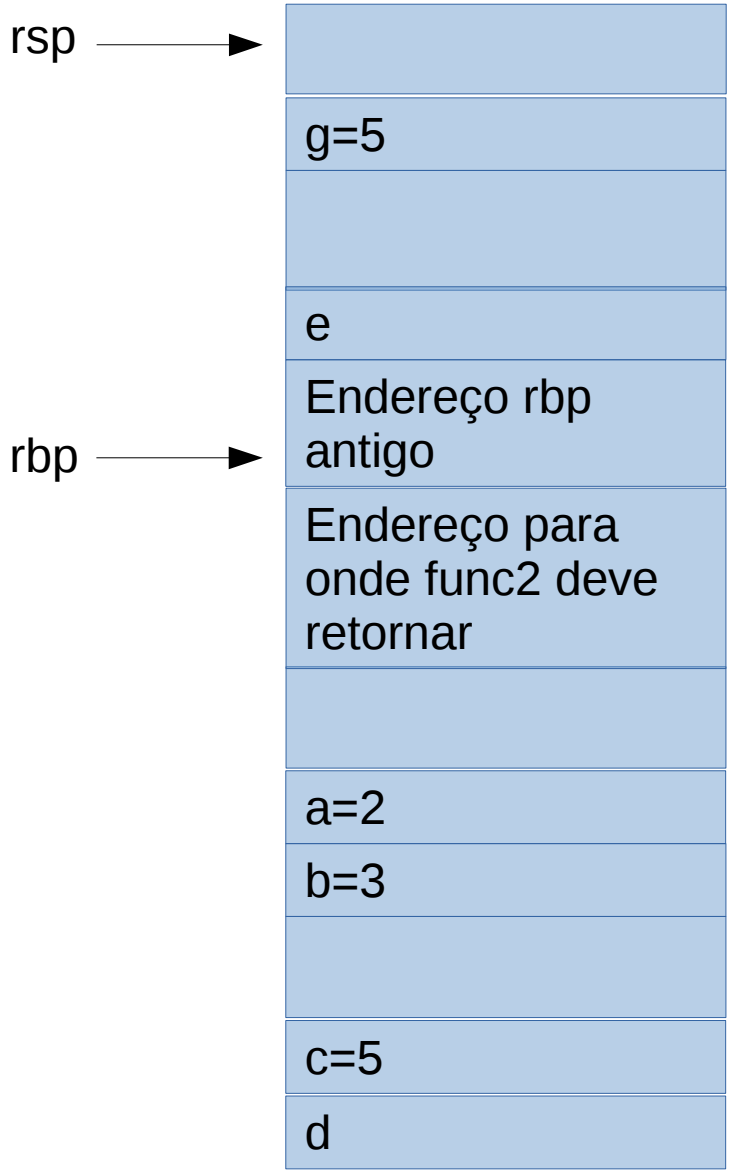
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func2:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 28
        mov     [rbp-20],edi
        mov     eax, [rbp-20]
        add      eax,2
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        imull   eax, [rbp-4]
        leave
        ret
```



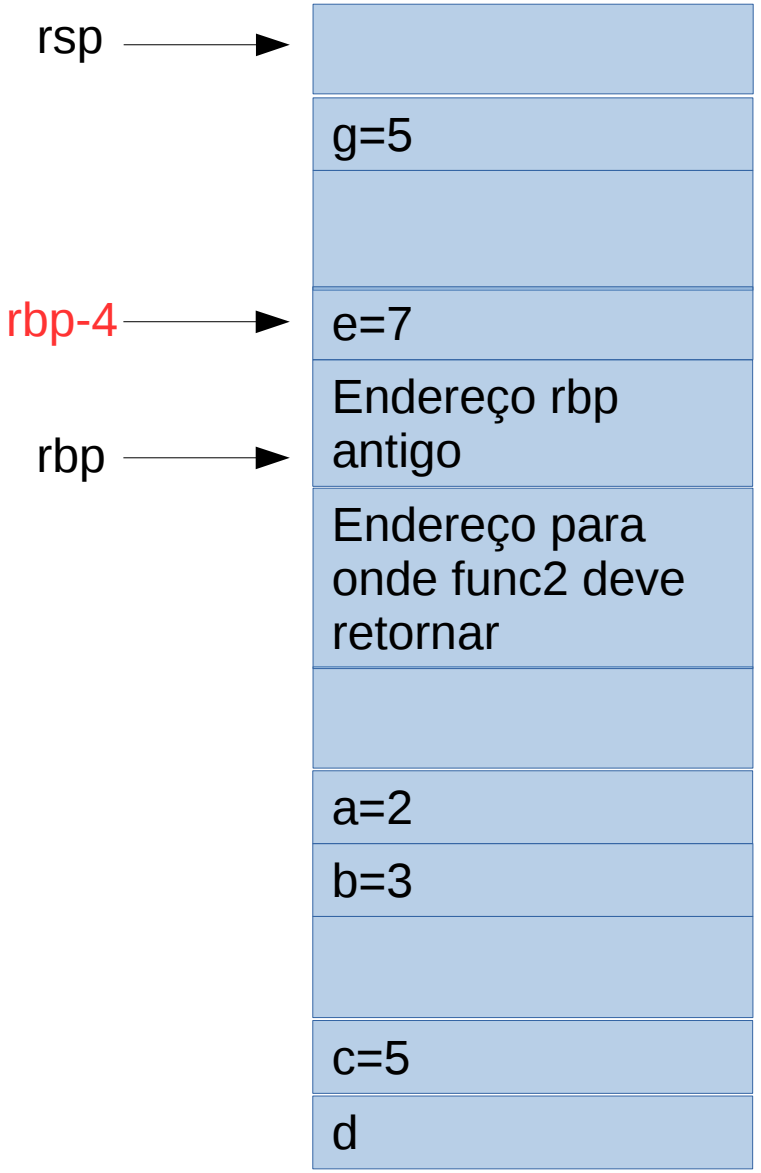
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func2:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 28
        mov     [rbp-20],edi
        mov     eax, [rbp-20]
        add      eax,2
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        imull   eax, [rbp-4]
        leave
        ret
```



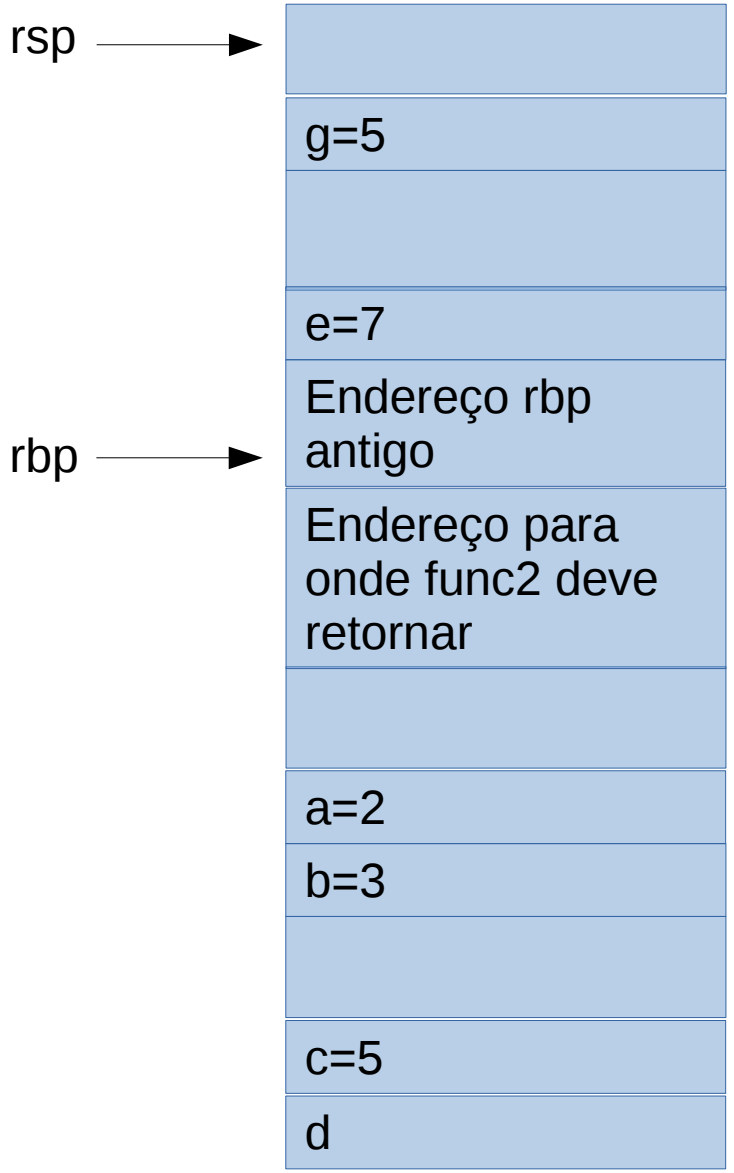
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func2:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 28
        mov     [rbp-20],edi
        mov     eax, [rbp-20]
        add      eax,2
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        imull   eax, [rbp-4]
        leave
        ret
```



```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

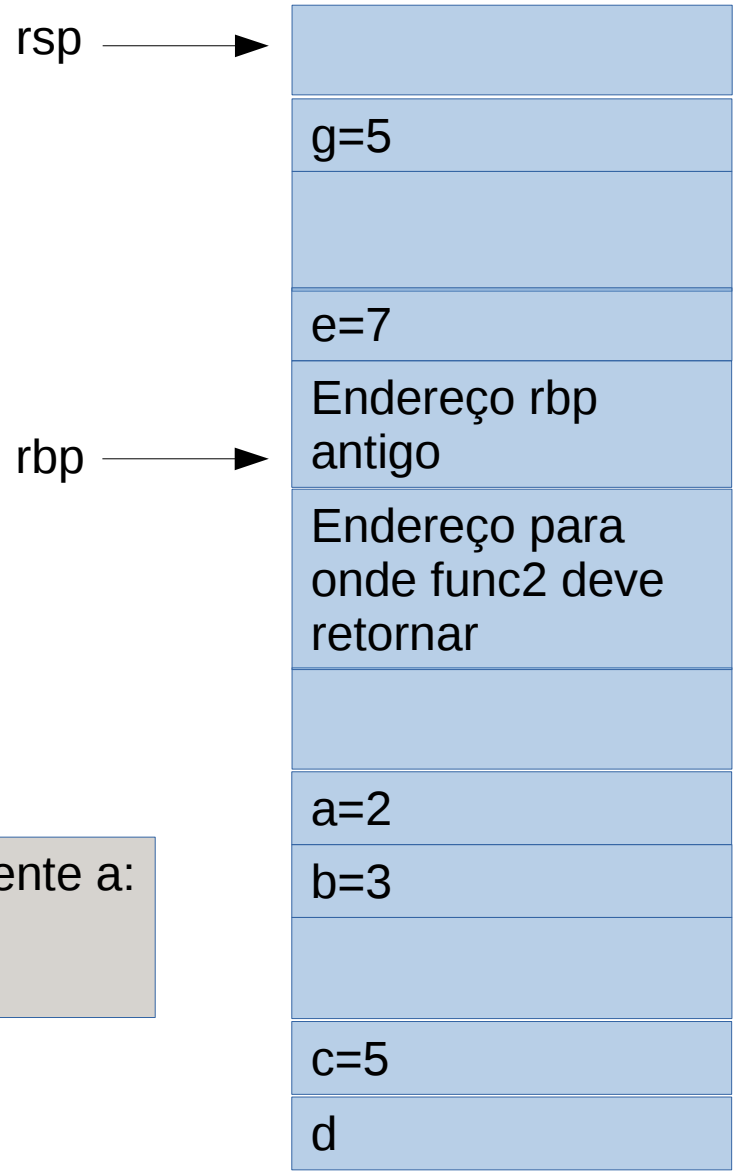
```
func2:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 28
        mov     [rbp-20],edi
        mov     eax, [rbp-20]
        add      eax,2
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        imull   eax, [rbp-4]
        leave
        ret
```



```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func2:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 28
        mov     [rbp-20],edi
        mov     eax, [rbp-20]
        add      eax,2
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        imull   eax, [rbp-4]
        leave
        ret
```

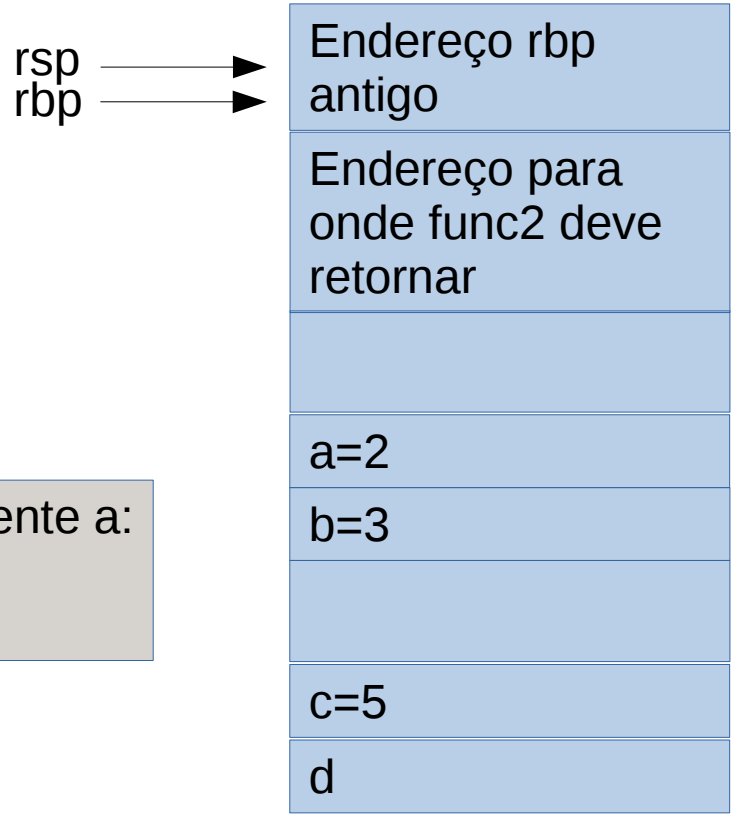
Instrução leave é equivalente a:
mov rsp,rbp
pop rbp



```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func2:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 28
        mov     [rbp-20],edi
        mov     eax, [rbp-20]
        add      eax,2
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        imull   eax, [rbp-4]
        leave
        ret
```

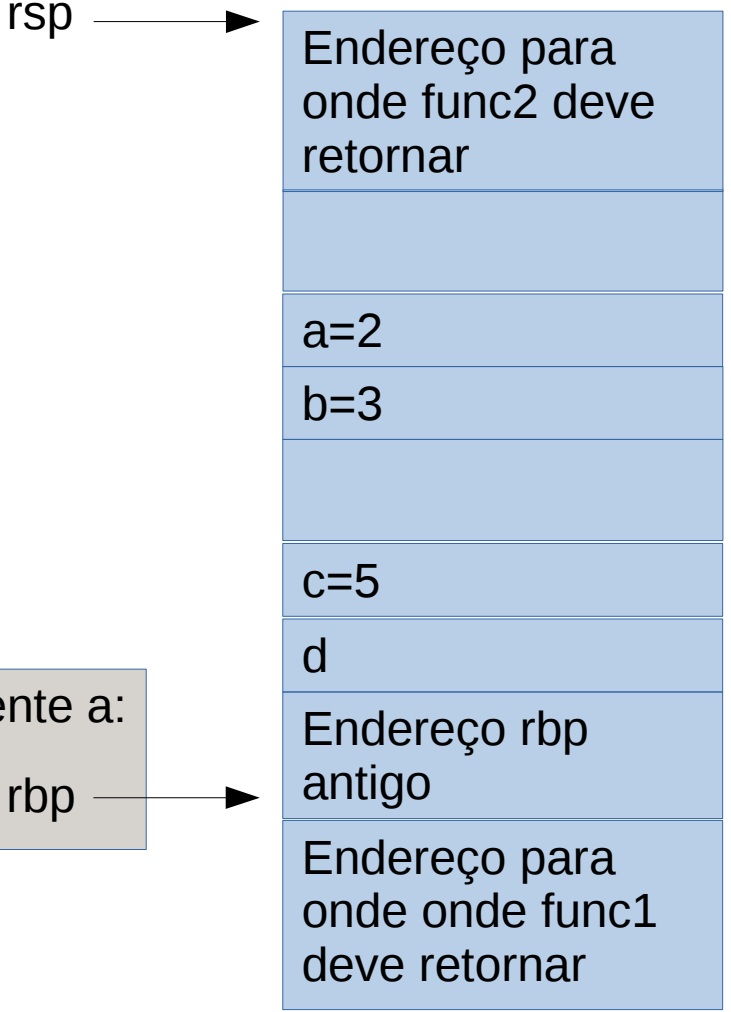
Instrução leave é equivalente a:
mov rsp,rbp
pop rbp



```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func2:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 28
        mov     [rbp-20],edi
        mov     eax, [rbp-20]
        add      eax,2
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        imull   eax, [rbp-4]
        leave
        ret
```

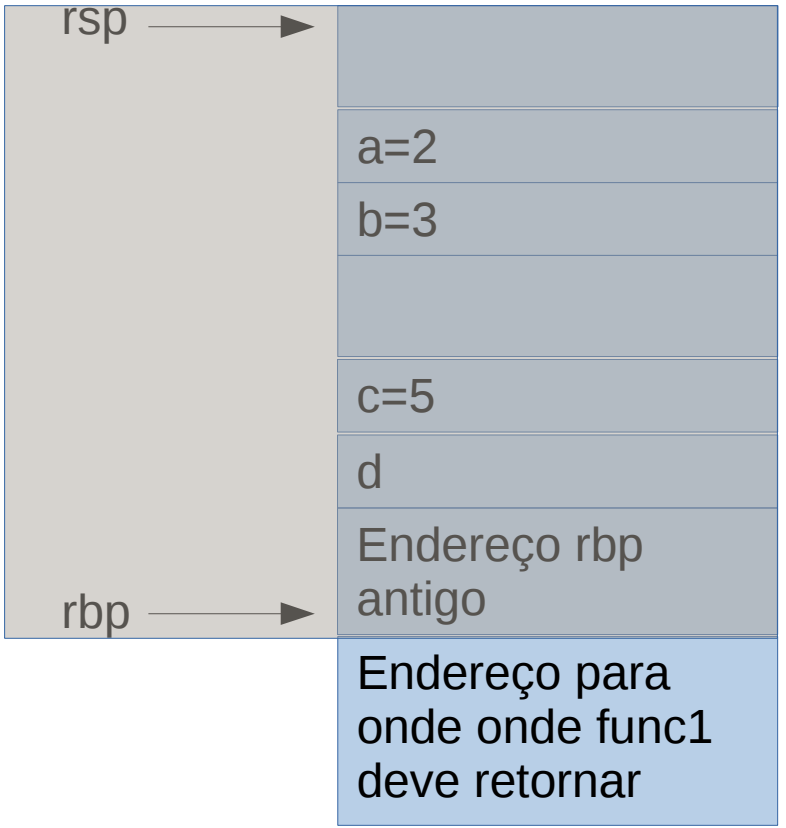
Instrução leave é equivalente a:
mov rsp,rbp
pop rbp



```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

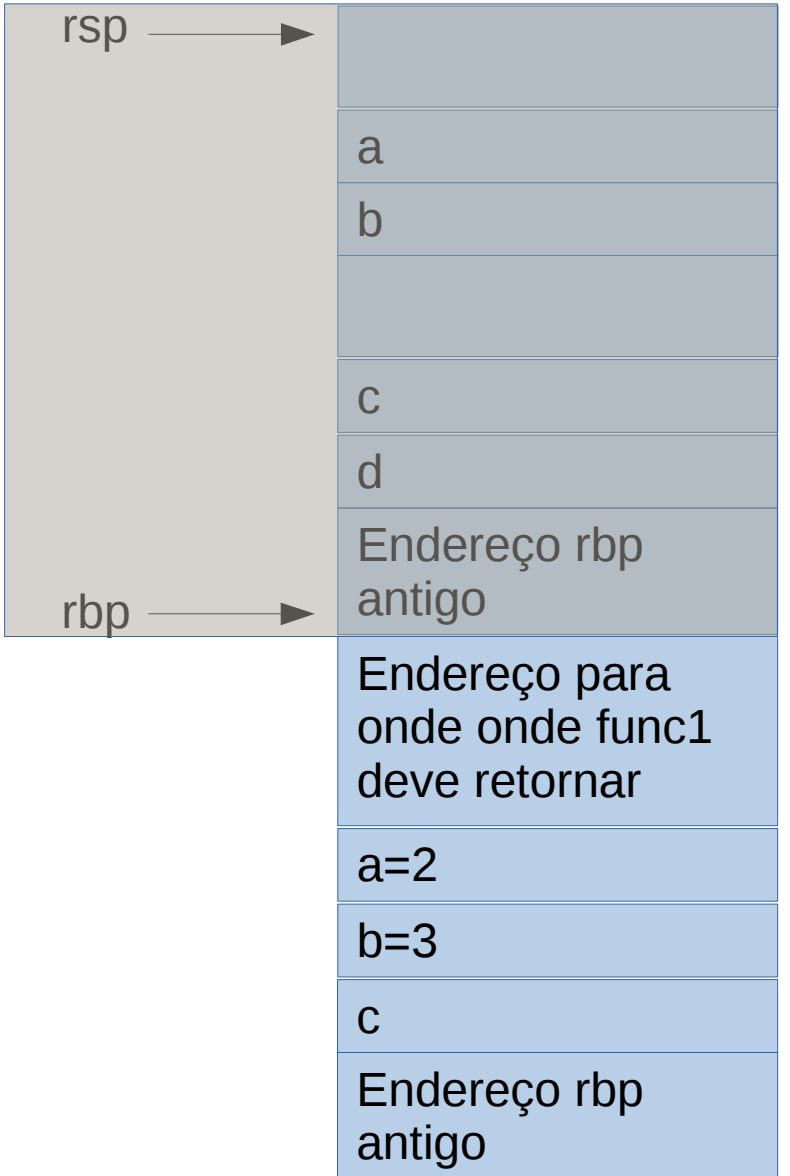
```
func2:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 28
        mov     [rbp-20],edi
        mov     eax, [rbp-20]
        add      eax,2
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        imull   eax, [rbp-4]
        leave
        ret
```

Com a instrução ret de func2 o stack frame de func1 é restaurado.



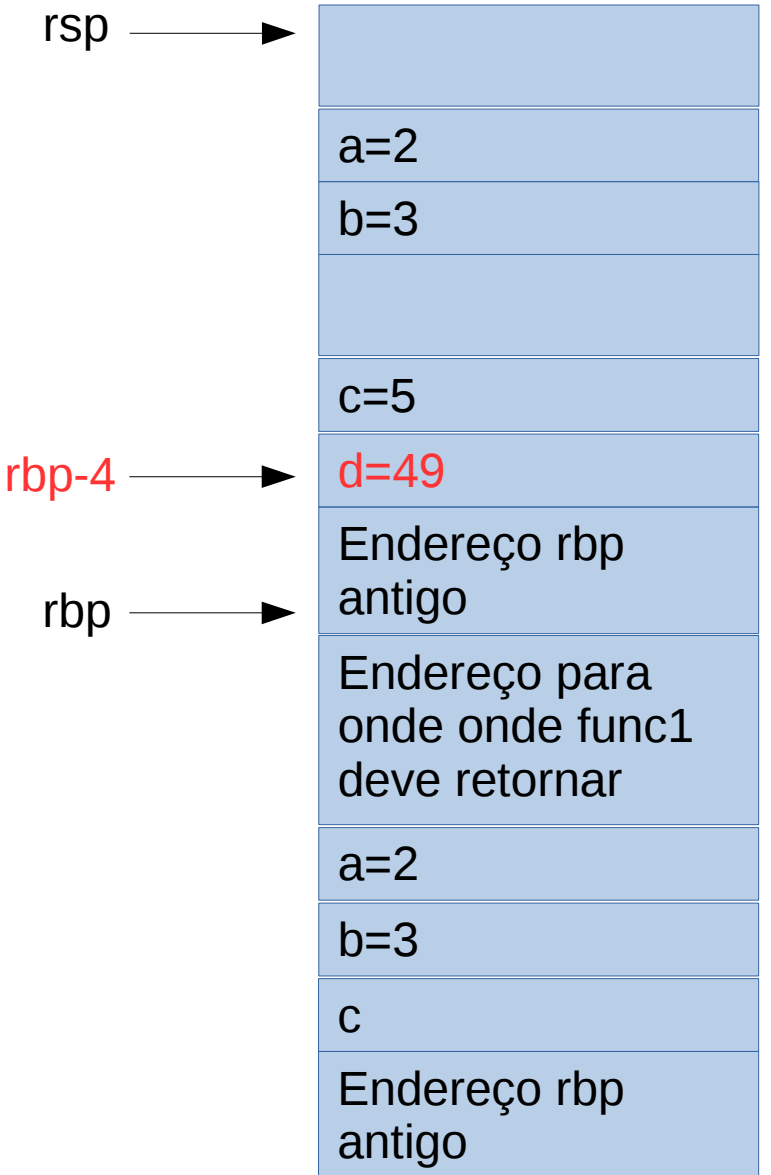
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  [rbp-8], eax
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



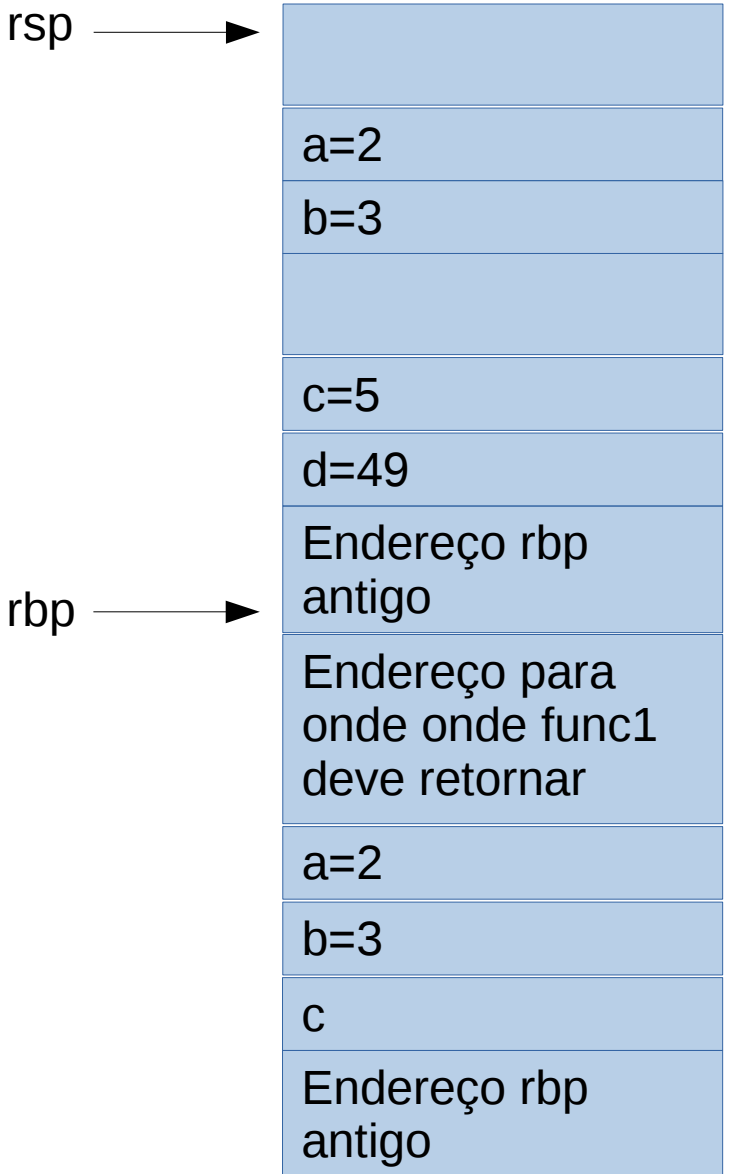
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push    rbp
        mov     rbp, rsp,

        sub     rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  [rbp-8], eax
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



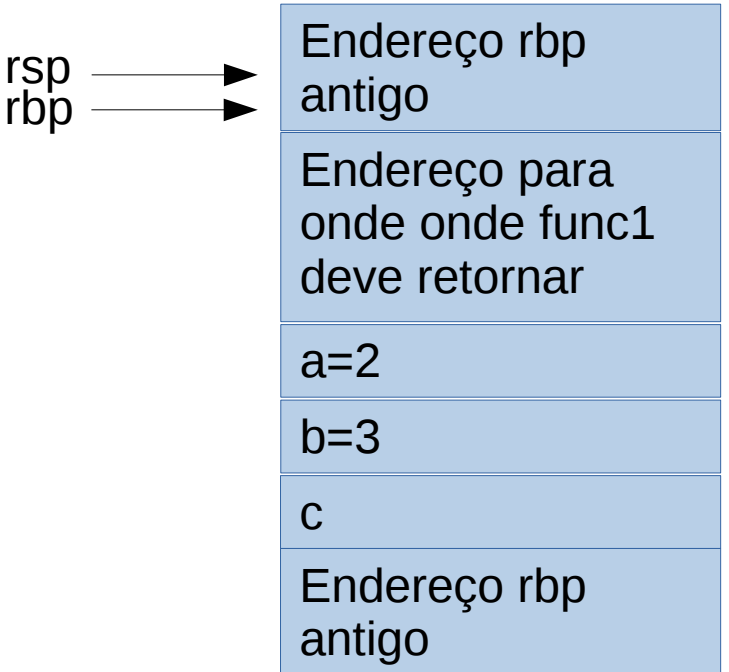
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  [rbp-8], eax
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



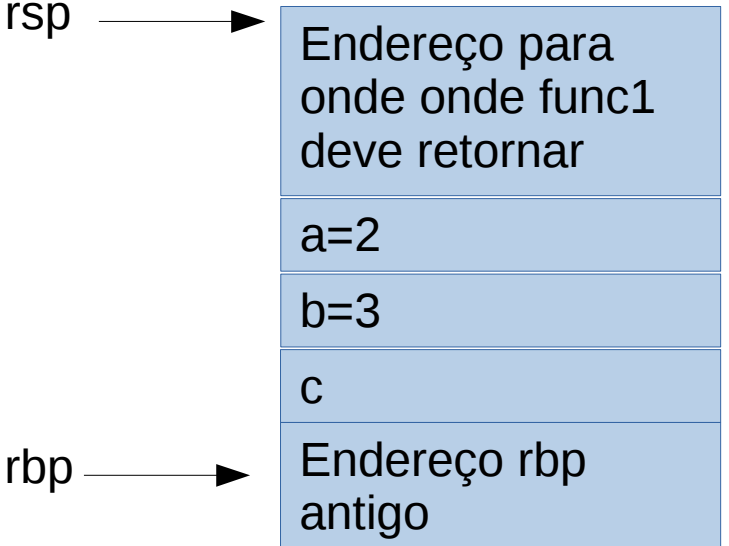
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  [rbp-8], eax
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



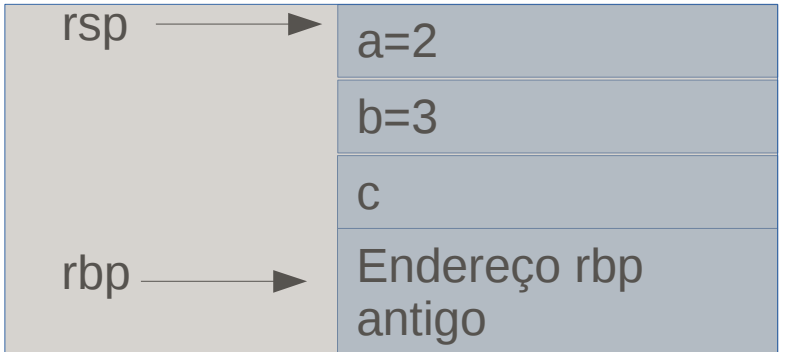
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  [rbp-8], eax
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



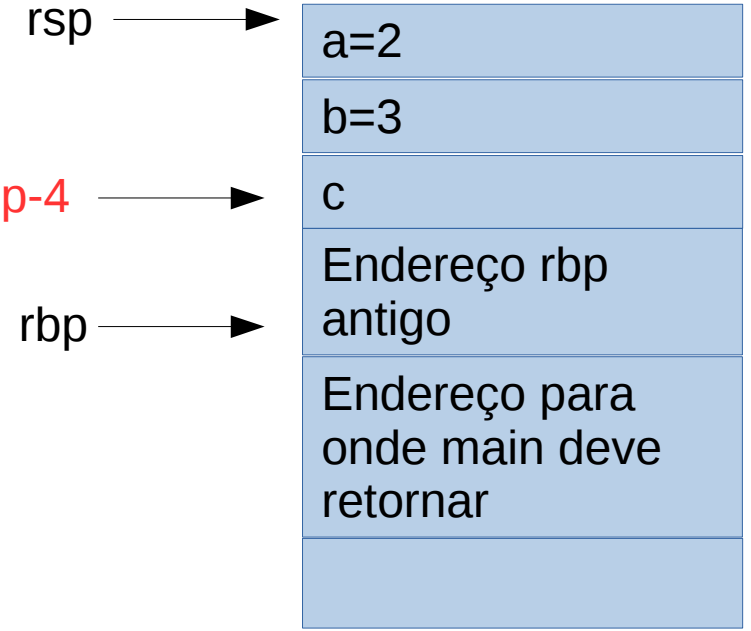
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
func1:
        push        rbp
        mov         rbp, rsp,

        sub    rsp,32
        movl  [rbp-20],edi
        movl  [rbp-24],esi
        movl edx, [rbp-20]
        movl eax, [rbp-24]
        addl  eax, edx
        movl  [rbp-8], eax
        movl  [rbp-8], eax
        movl edi, eax
        call   func2
        movl  [rbp-4], eax
        movl  edx, [rbp-8]
        movl  eax, [rbp-4]
        addl  eax, edx
        leave

        ret
```



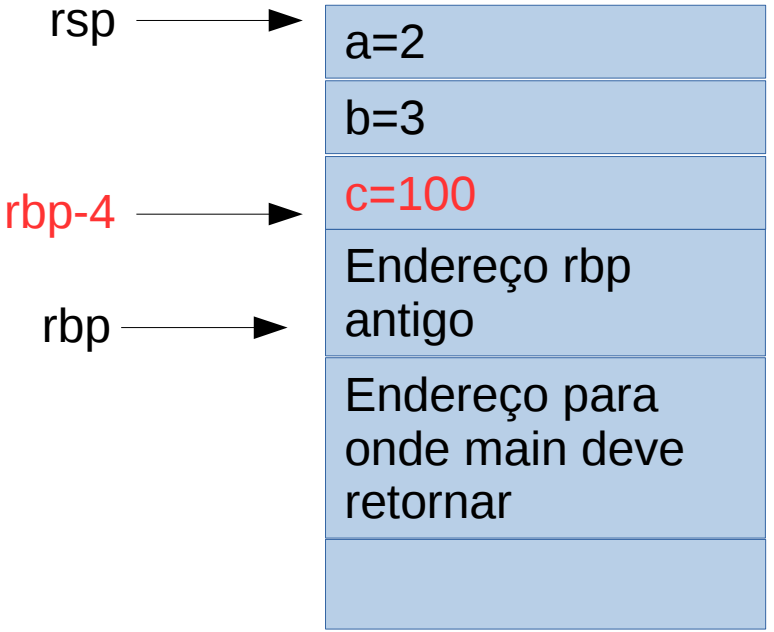
```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
main:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 16
        mov     [rbp-12], 2
        mov     [rbp-8], 3
        mov     edx, [rbp-8]
        mov     eax,[rbp-12]
        mov     esi, edx
        mov     edi, eax
        call    func1
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        leave
        ret
```



```
int main(void)
{
    int a, b, c;
    a = 2;
    b= 3;
    c = func1(a,b);
    return c;
  }

 int func1(int a, int b)
{
     int c,d;
     c = a+b;
     d = func2(c);
     return c+d;
}

int func2(int g)
{
  int e = g+2;
  return e*e;
}
```

```
main:
        push    rbp
        mov     rbp, rsp
        sub     rsp, 16
        mov     [rbp-12], 2
        mov     [rbp-8], 3
        mov     edx, [rbp-8]
        mov     eax,[rbp-12]
        mov     esi, edx
        mov     edi, eax
        call    func1
        mov     [rbp-4], eax
        mov     eax, [rbp-4]
        leave
        ret
```



Convenção de chamada em C - 64 bits

- Primeiro parâmetro em rdi

  Segundo parâmetro em rsi

  Terceiro parâmetro em rdx

  Quarto parâmetro em rcx

  Quinto parâmetro em r8

  Sexto parâmetro em r9
- Valor de retorno em rax.

E se tiver mais de 6 parâmetros

- Os demais parâmetros são empilhados, da mesma maneira que em 32 bits.