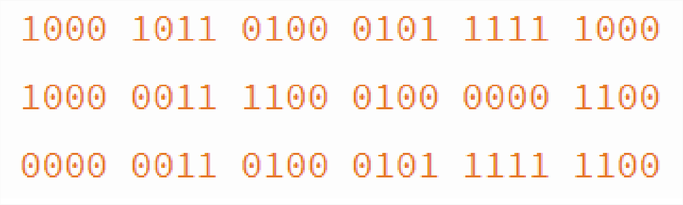
어셈블리어

Assembly Language

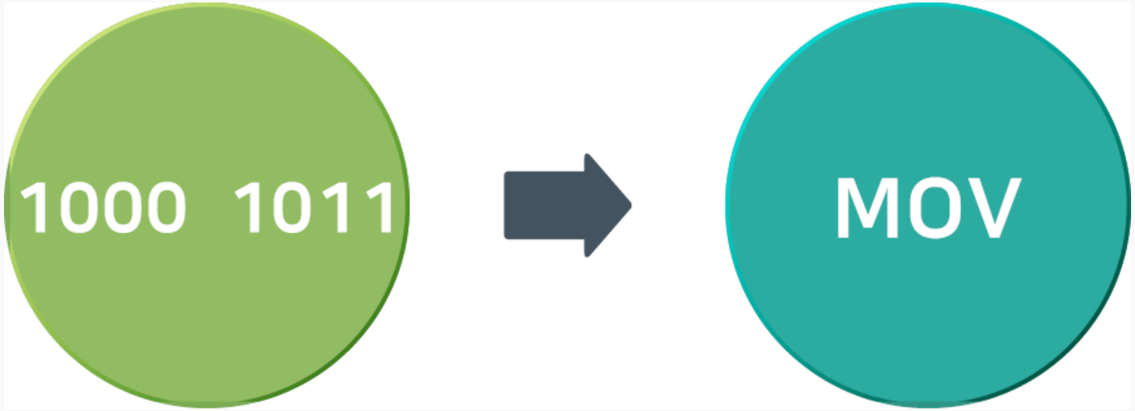
이다영

1. 어셈블리어란?



```
1000 1011 0100 0101 1111 1000
1000 0011 1100 0100 0000 1100
0000 0011 0100 0101 1111 1100
```

기계어



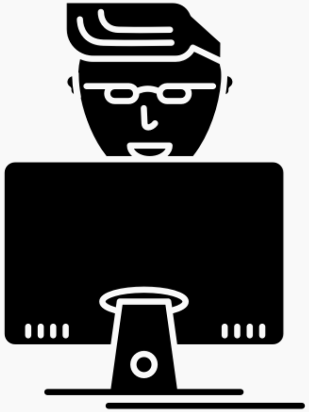
1000 1011

MOV

어셈블리어

저급언어 & 고급언어

[✓ 저급언어]



고급언어

기본 구조 & 문법

Destination Source

ADD Operand1, Operand2

Source Destination

AT&T

Intel

2. 레지스터

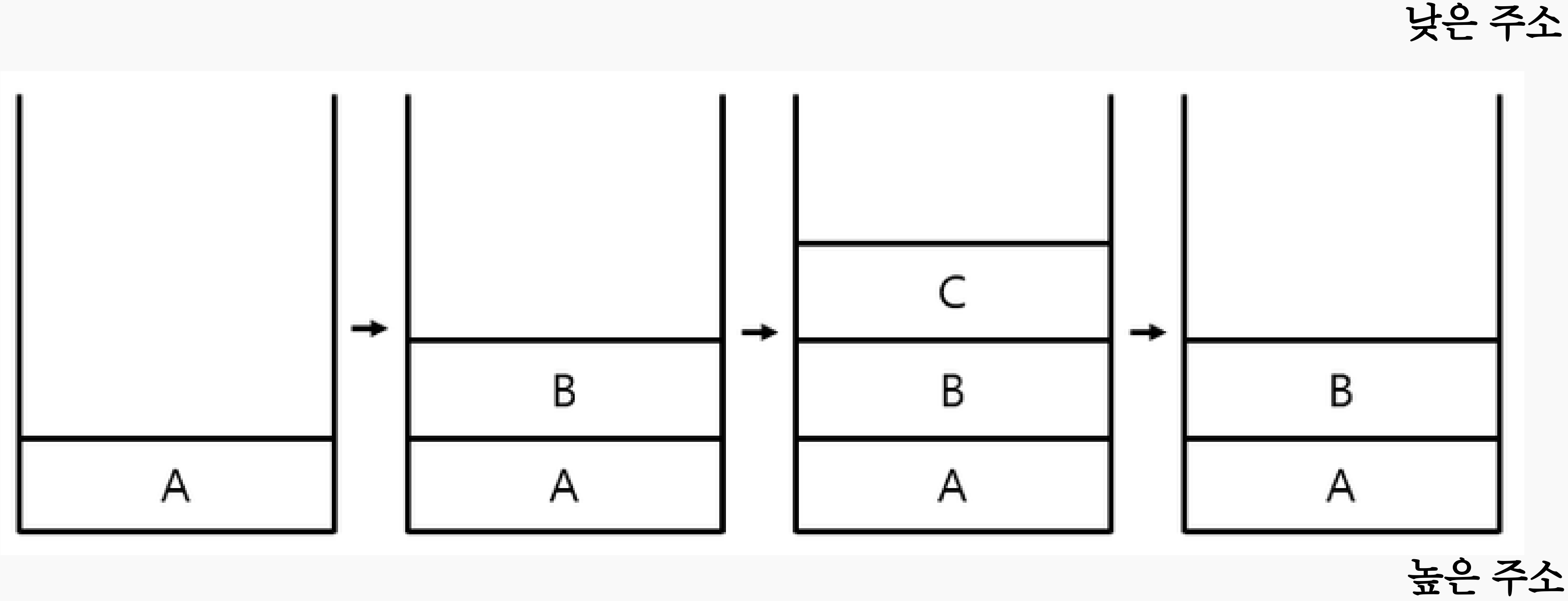
Register

: CPU 내부에서 데이터를 일시적으로 저장하는 장소

종류	레지스터	용도
범용	EAX	산술/논리 연산, 처리 결과 리턴값 저장
	EDX	산술/논리 연산 보조
포인터	ESP	현재 스택의 가장 위에 들어있는 데이터를 가리킴
	EBP	현재 스택의 가장 바닥을 가리킴

스택

Stack

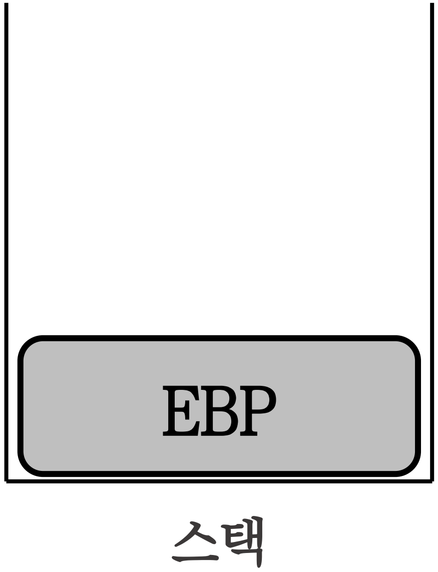


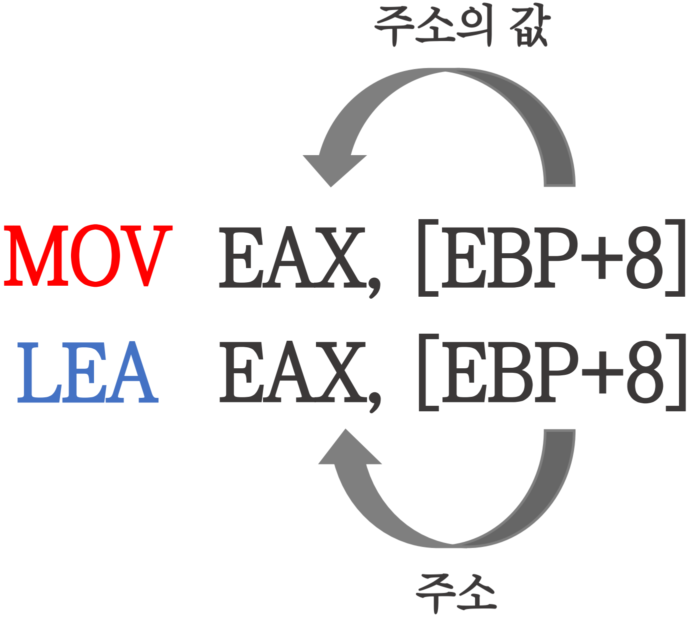
3. 핵심 명령어

Opcode

PUSH EBP

POP EBP





주소의 값

```
MOV  EAX, [EBP+8]
LEA  EAX, [EBP+8]
```

주소

ADD

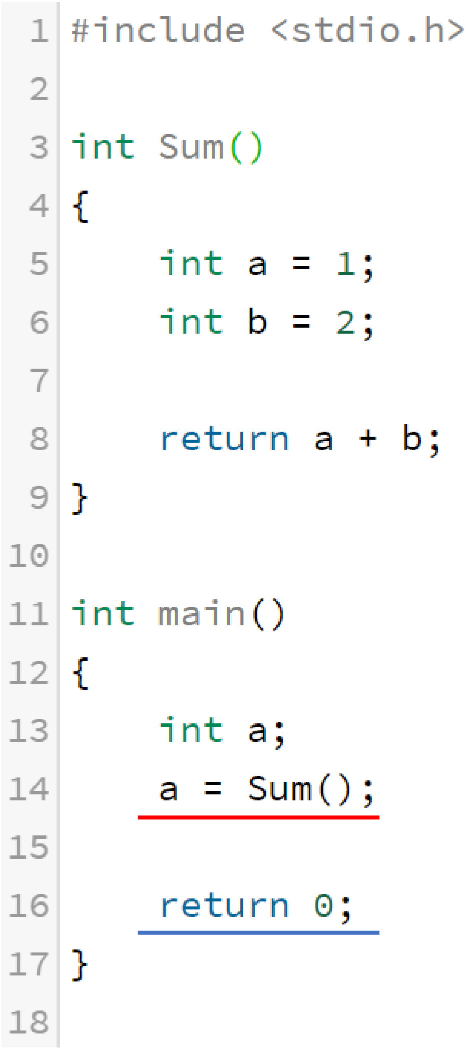
EAX = 50
ADD EAX, 10
EAX = EAX + 10 = 60

SUB

EAX = 50
SUB EAX, 10
EAX = EAX – 10 = 40

CALL

RET



```c
#include <stdio.h>

int Sum()
{
    int a = 1;
    int b = 2;

    return a + b;
}

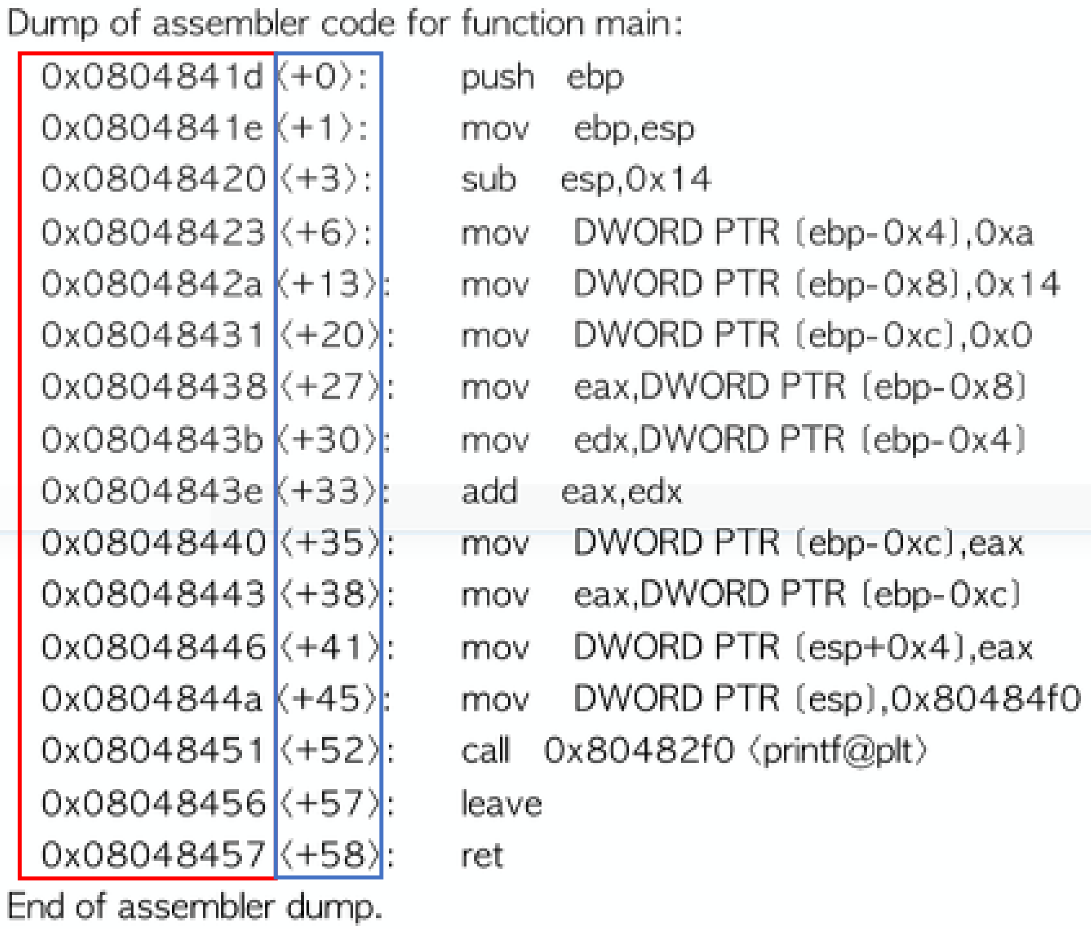
int main()
{
    int a;
    a = Sum();

    return 0;
}

```

4. 분석

```
int main()
{
int a = 10, b = 20, c;
c = a + b;
printf("%d", c);
return 0;
}
```



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 0x08048456 <+57>:    leave
 0x08048457 <+58>:    ret
End of assembler dump.
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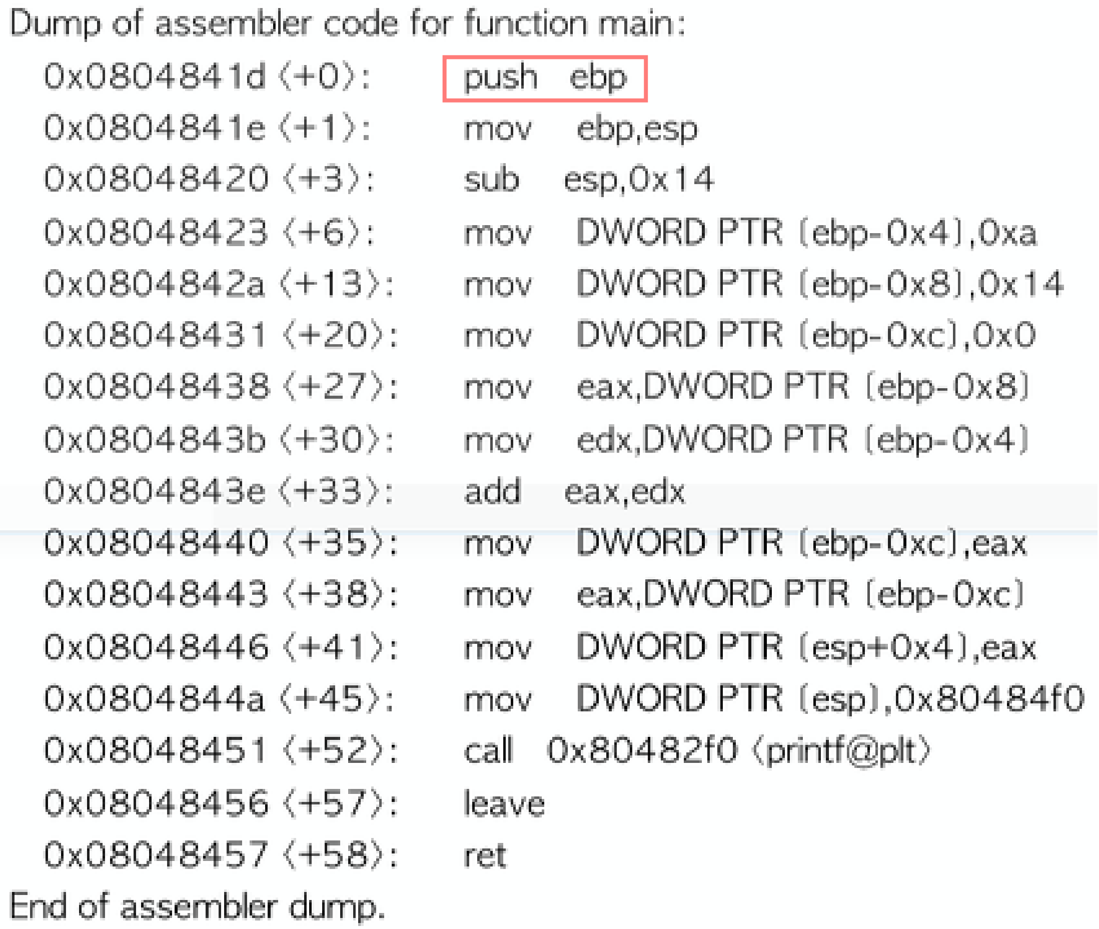

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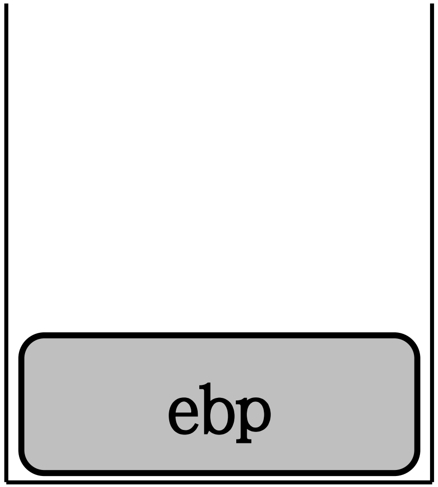

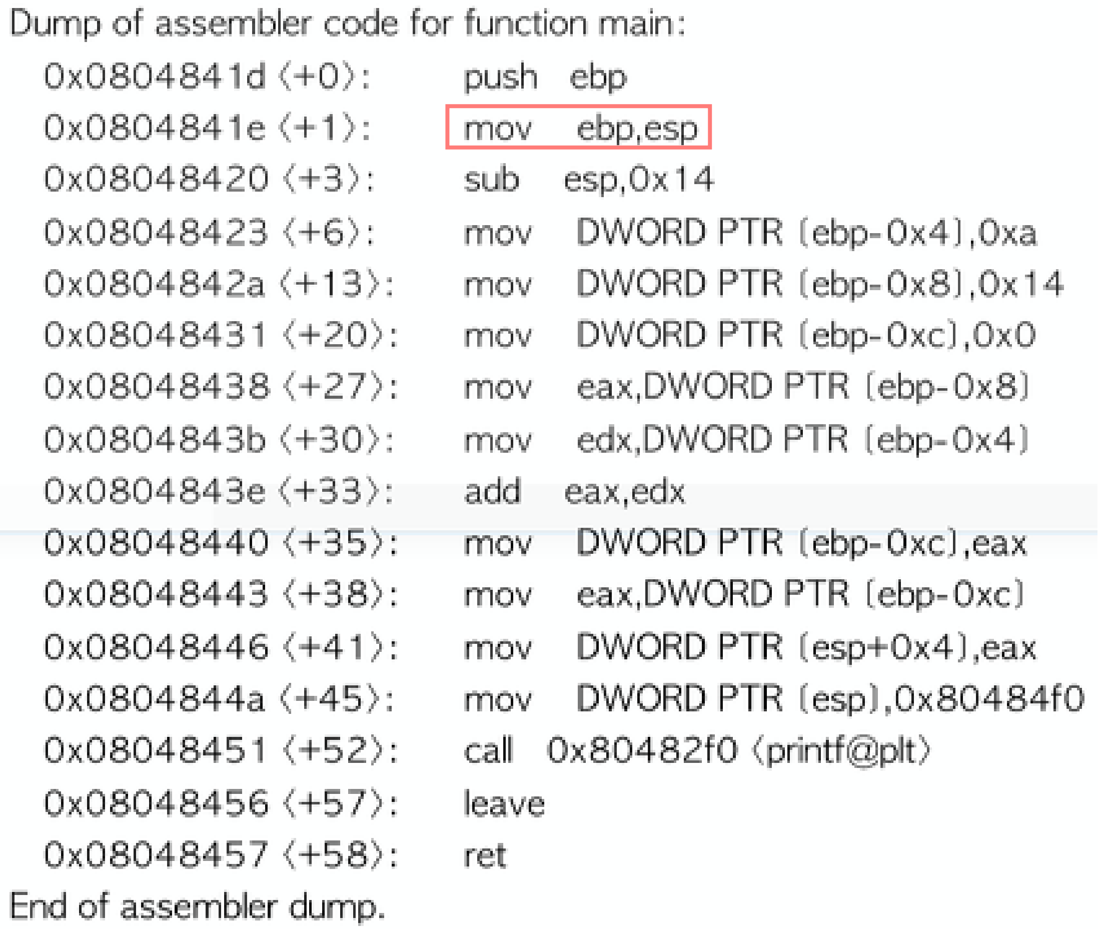

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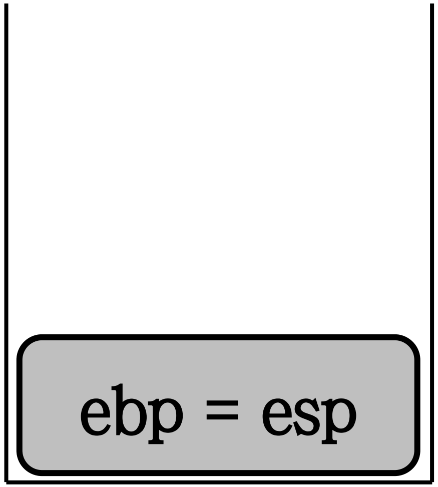

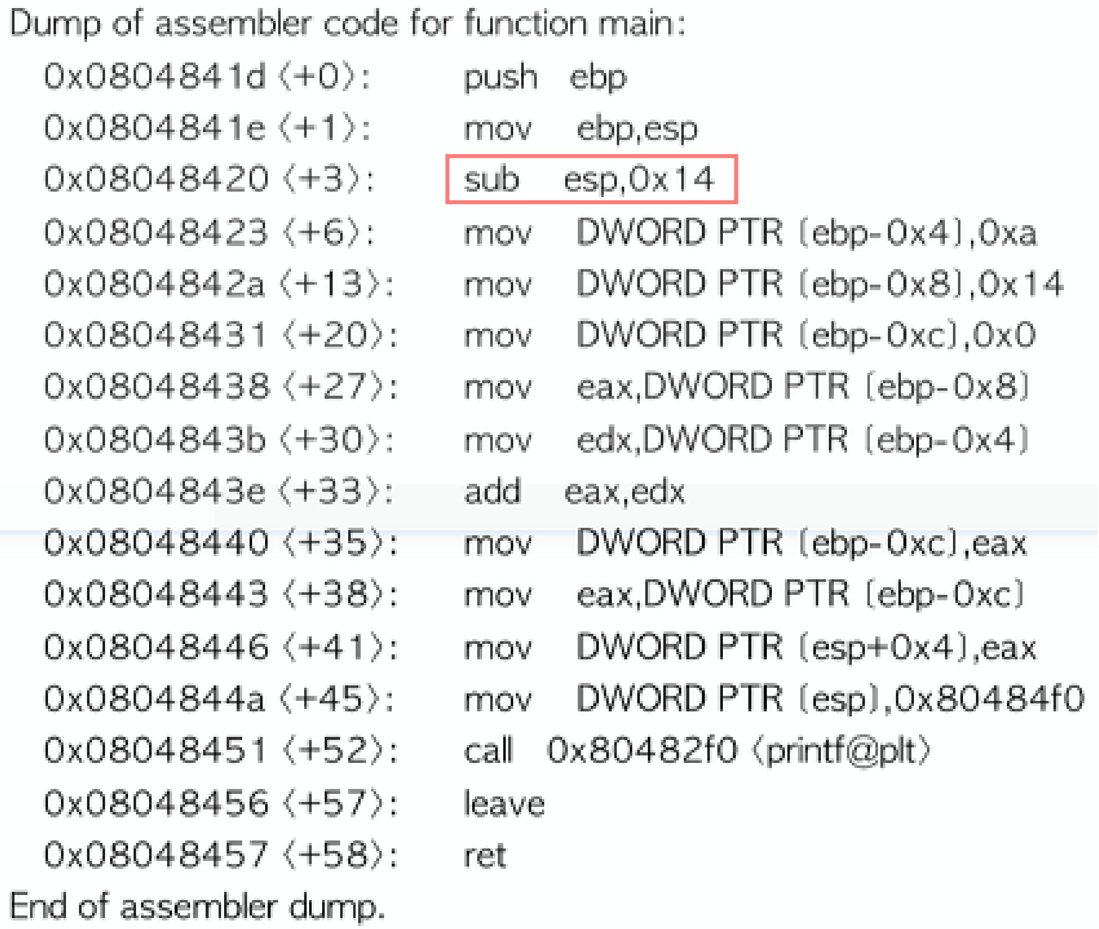

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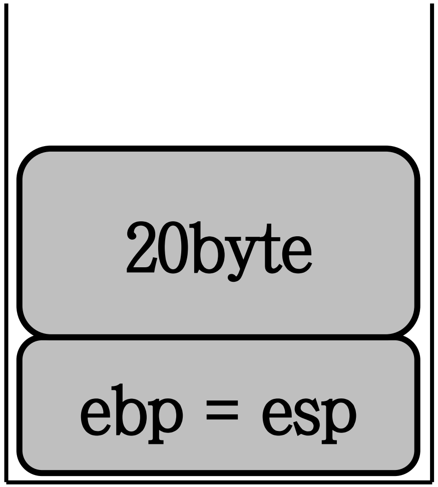

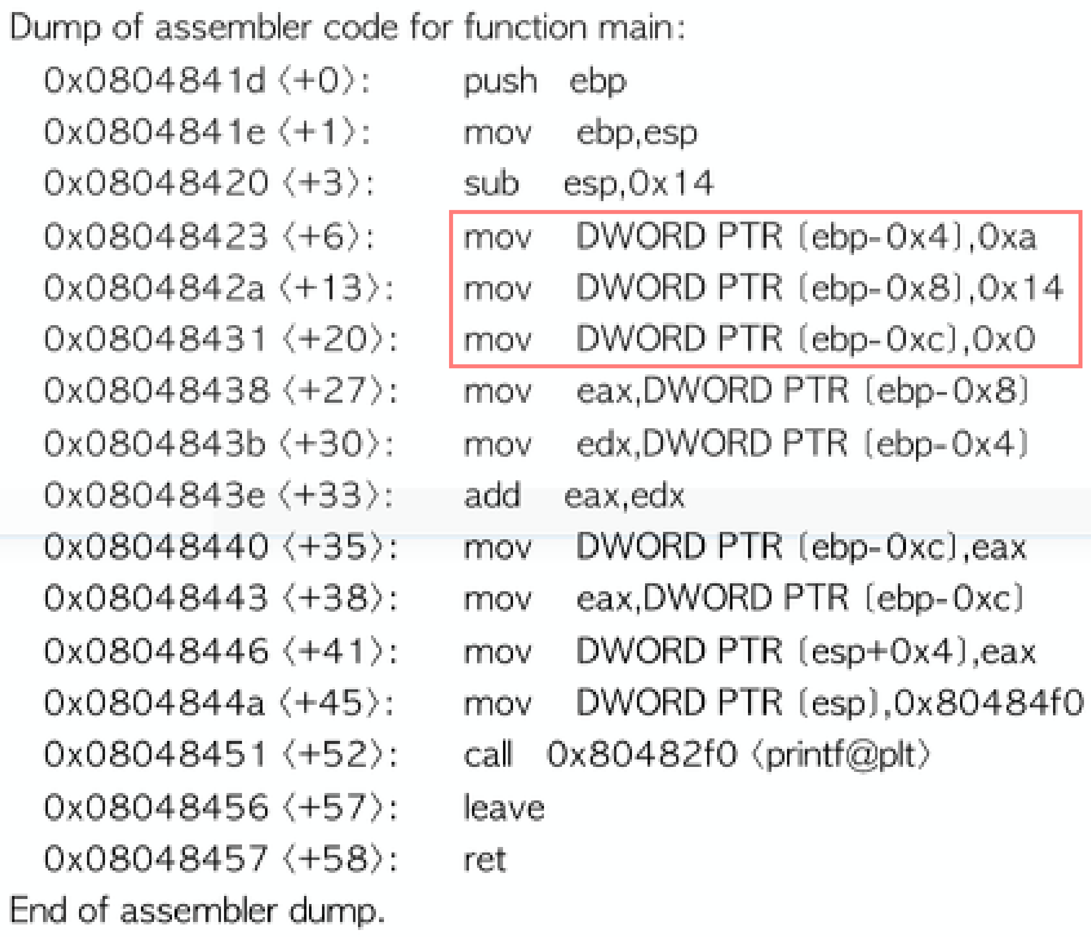

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```

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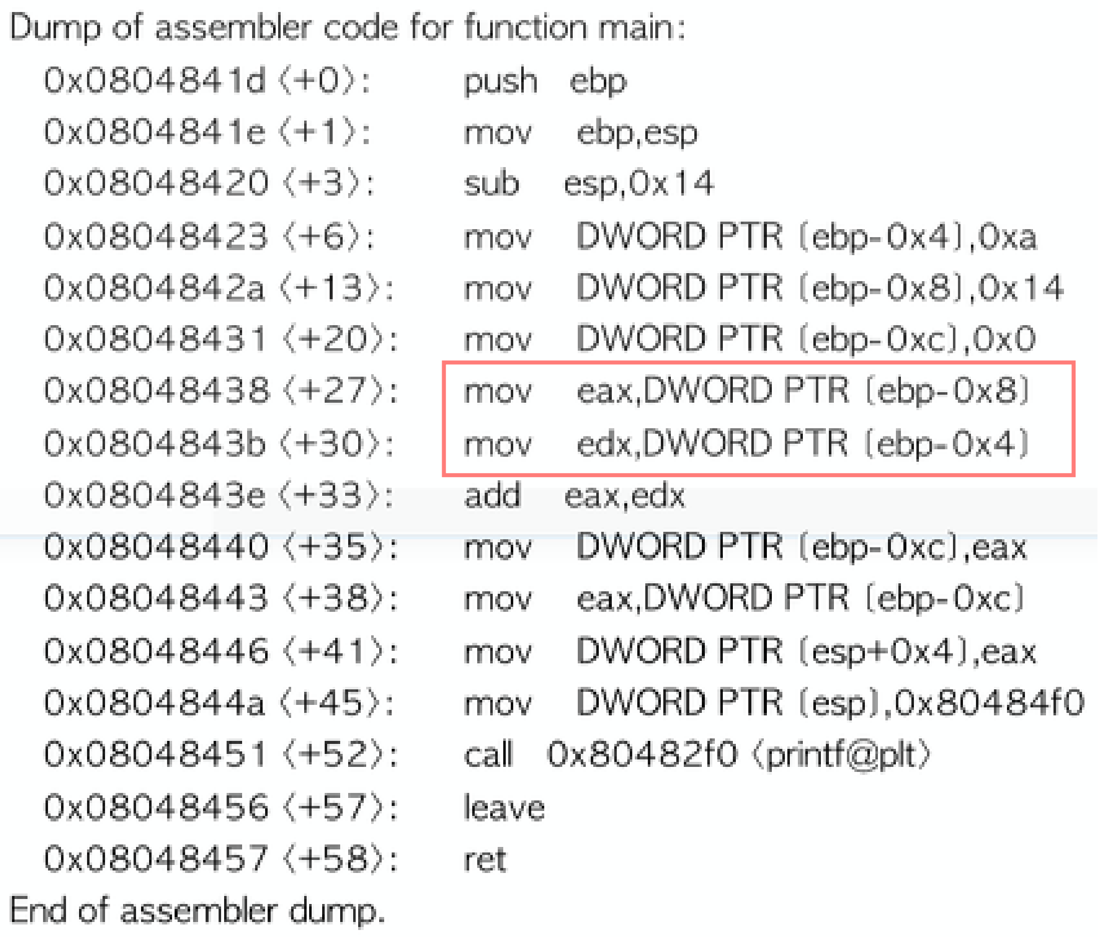
0



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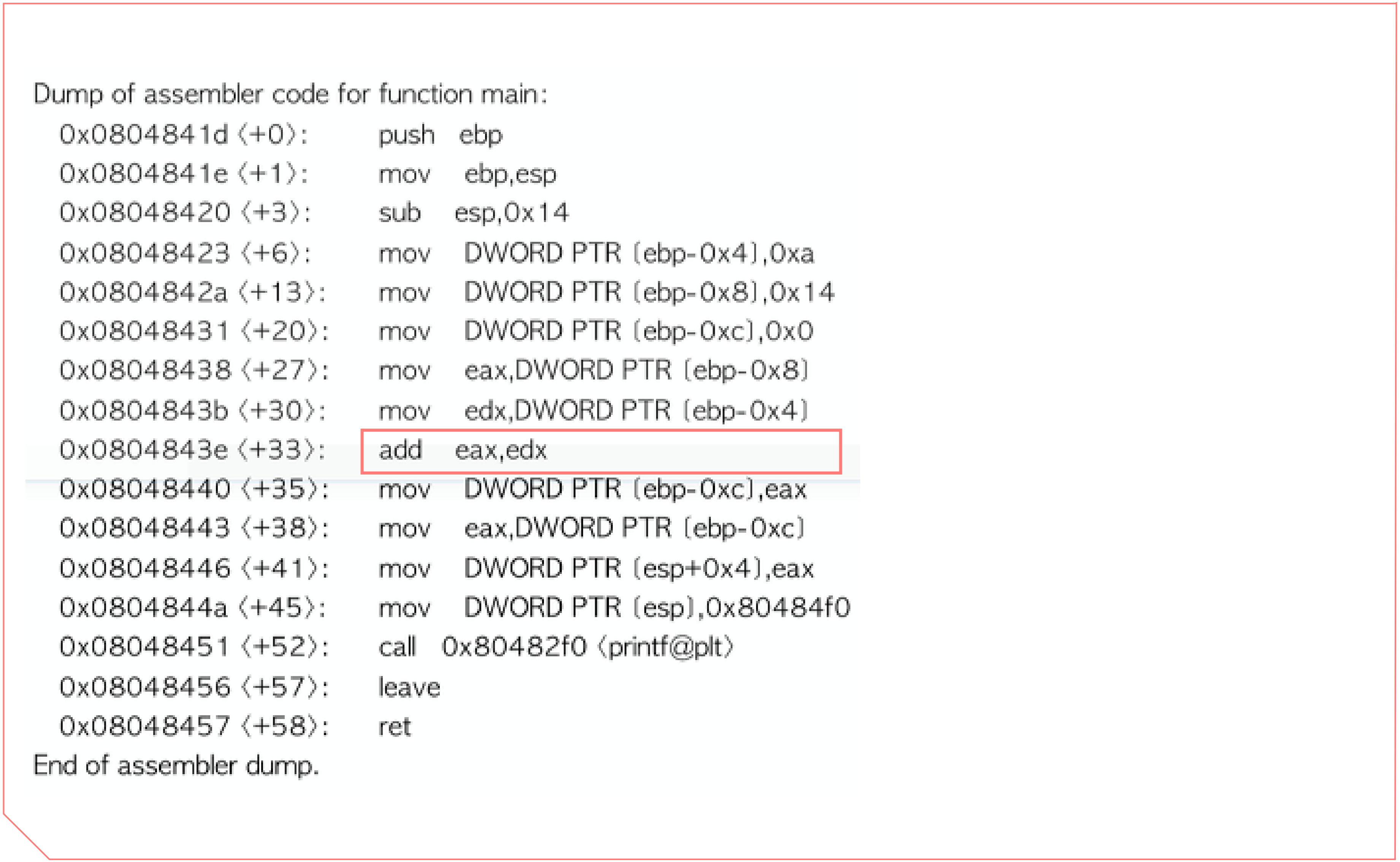

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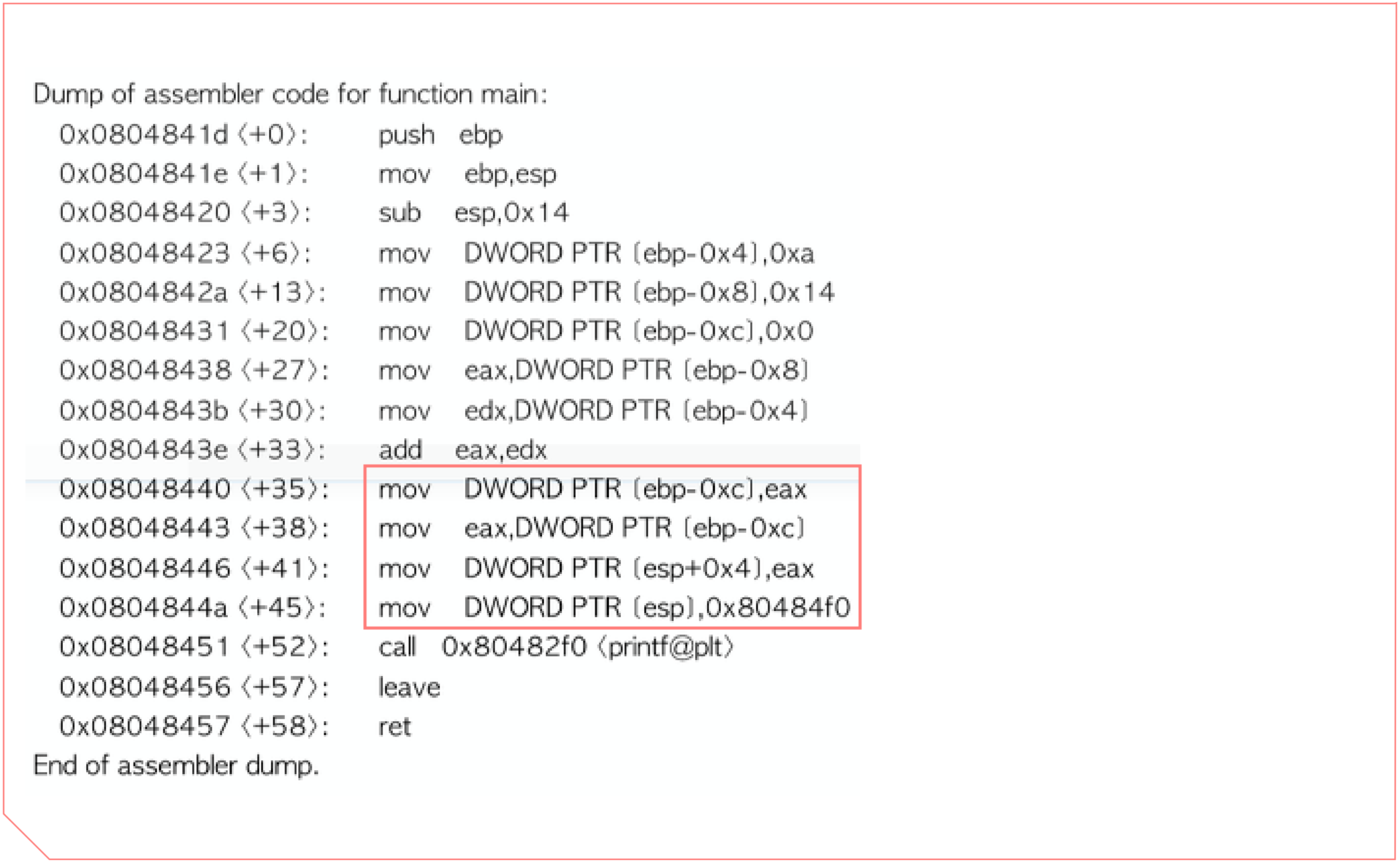

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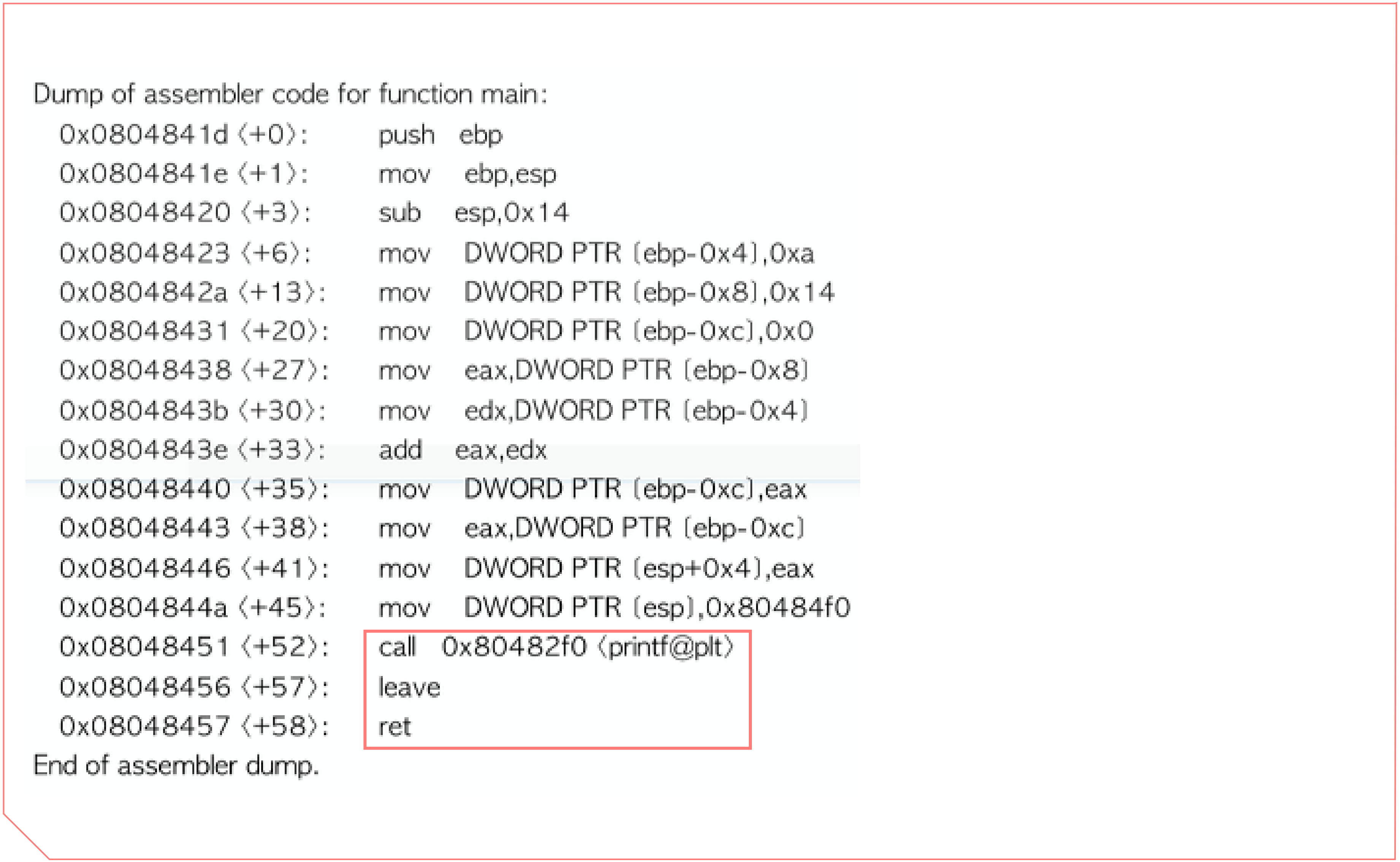

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감사합니다!