

# Question

```
int foo() {
    int a = 0;
    int b = 12;
    int c = 1;

    while(b + c > 0) {
        int e = b + bar(c);
        c = b + e;

        int d = c + baz(b);
        a = d - e;
    }

    return a;
}
```

You are a compiler. Do you choose to put **a** in a:

- (A) Caller-saved register (t)
- (B) Callee-saved register (s)
- (C) Depends on where we put the other variables in this fn
- (D) Both are equally valid

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Repeat but assume that foo is recursive (bar/baz → foo)

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        int d = c + baz(b);
        a = d - e;
    }

    return a;
}
```

You are a compiler. Do you choose to put **b** in a:

- (A) Caller-saved register (t)
- (B) Callee-saved register (s)
- (C) Depends on where we put the other variables in this fn
- (D) Both are equally valid

## Question

Which is a true statement about the arguments to the function

```
void sub(int a, int b, int c, int d, int e, int f, int g, int h, int i);
```

- A. Arguments a-i are all passed in registers.
- B. Arguments a-i are all stored on the stack.
- C. Only i is stored on the stack, but space is allocated for all 9 arguments.
- D. Only a-h are stored on the stack, but space is allocated for all 9 arguments.

# Quiz

❖ Which statement is FALSE?

1: RISC-V uses **jal** to invoke a function and **jr** to return from a function

2: **jal** saves PC+1 in **ra**

3: The callee can use temporary registers (**t<sub>i</sub>**) without saving and restoring them

4: The caller can rely on save registers (**s<sub>i</sub>**) without fear of callee changing them