Interview Questions
Java Syntax

Question

What is `public static void main`?

Answer

- `public static void` are modifiers to a method called `main`
- `public` – method is accessible outside the class
- `static` – a class instance isn't needed
- `void` – Method doesn't return anything
- `main` – special name convention to indicate an execution entry point

Question

What if the order of modifiers are switched in `public static void main`**?**

Answer

Order of modifiers don't matter

`static void public main` works just as well

Modifiers must be before the method

Question

Can you run code before the main method starts?

Answer

- Yes, you can run code before main method starts
- This can be done by using static blocks
- Static blocks in a class execute when the class is loaded
- So, this runs before the main method is executed

Question

What is the difference between continue and break statements?

Answer

- Both are used in loops
- Break is used to end the loop immediately
- Continue is used to end that particular iteration
- Example: Looping an array until you find an exceptional case: break
- Example: Processing every element, but skipping some on some condition
- Break is also used in switch (to prevent fall through)

Question

What is the difference between float and double?

Answer

- Both are real numbers
- Both are imprecise (need infinite precision)
- Float takes 32 bit. Double takes 64 bit
- Double is literally double the size of float
- Double has more precision than float
- By default, floating point numbers are double
- Use float mostly for space optimizations
- A double can be cast to a float (with possible precision loss)

Question

Why would you need a break in a switch statement?

Answer

- Switch case statements aren't "discrete".
- There isn't a one-to-one map between the matched case and the block
- Case match is for where the execution starts. After that, execution flows through the end
- One way to break it is by using a break statement
- Can be used without break to group several matching statements

Question

What are the primitive types in Java?

Answer

- byte – 8 bit signed twos compliment
- char – 16 bit Unicode
- short - 16 bit signed twos compliment
- int - 32 bit signed twos compliment
- long – 64 bit twos compliment (signed or unsigned)
- float – 32 bit floating point
- double – 64 bit floating point
- boolean – One bit of information. Size undefined

Question

What is the default value of the local variables?

Answer

The local variables do not have default values. They need to be initialized by the programmer

Doesn't happen automatically!

Question

Why does the compiler complain about local variable initialization?

Answer

- Java does not initialize local variables automatically
- These local variables could be primitives or object references
- Before “using” a local variable, you need to have put some value to it first
- Can be completely uninitialized. As long as it is not used!

Question

Can a double be cast into a byte?

Answer

- Yes, a higher precision numeric type can be cast to a lower precision numeric type
- This needs explicit casting

```
byte b = (byte) d
```

- Possible loss of data (lossy conversion)

Question

Can a byte be cast into a double?

Answer

- A byte does not need to be cast into double. It can be automatically assigned
- This is called implicit casting
- When a low precision number type is assigned to a high precision data type
- No possibility of data loss of data (lossless conversion)

Question

How do you break from nested loops?

Answer

- Break keyword works with label

```
search:
    for (i = 0; i < arrayOfInts.length; i++) {
        for (j = 0; j < arrayOfInts[i].length;
             j++) {
            if (arrayOfInts[i][j] == searchfor) {
                foundIt = true;
                break search;
            }
        }
    }
```

Answer

- Break keyword works with label
- Indicates the statement to break, not where to go to
- Not a “bad” thing to use
- Different from goto in that you cannot alter the flow direction or do jumps