Step Into Java: Static Methods

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Java

Review

Applications (as opposed to applets) all have a class that contains a psvm.

What is psvm?

```
public class starter{
public static void main(String args[])
{
        // blah, blah, blah
}
}
```

```
public class starter{
        public static void main(String args[])
        {
                // blah, blah, blah
        }
}
```

```
        public class another
        {
                private starter joe;
                joe = new starter();
                joe.main();
                // blah, blah
        }
```

Is this how psvm is called?

JVM calls psvm to start the application.

If we were to call joe.main(), we would have to construct joe first.

How could we construct joe first if psvm is the method that the JVM calls to start the application?

Wow!

So, psvm is a method of a class, but it has no object!

It is static!!!!

```
public class starter{
        public static void main(String args[])
        {
                // blah, blah, blah
        }
}
```

JVM

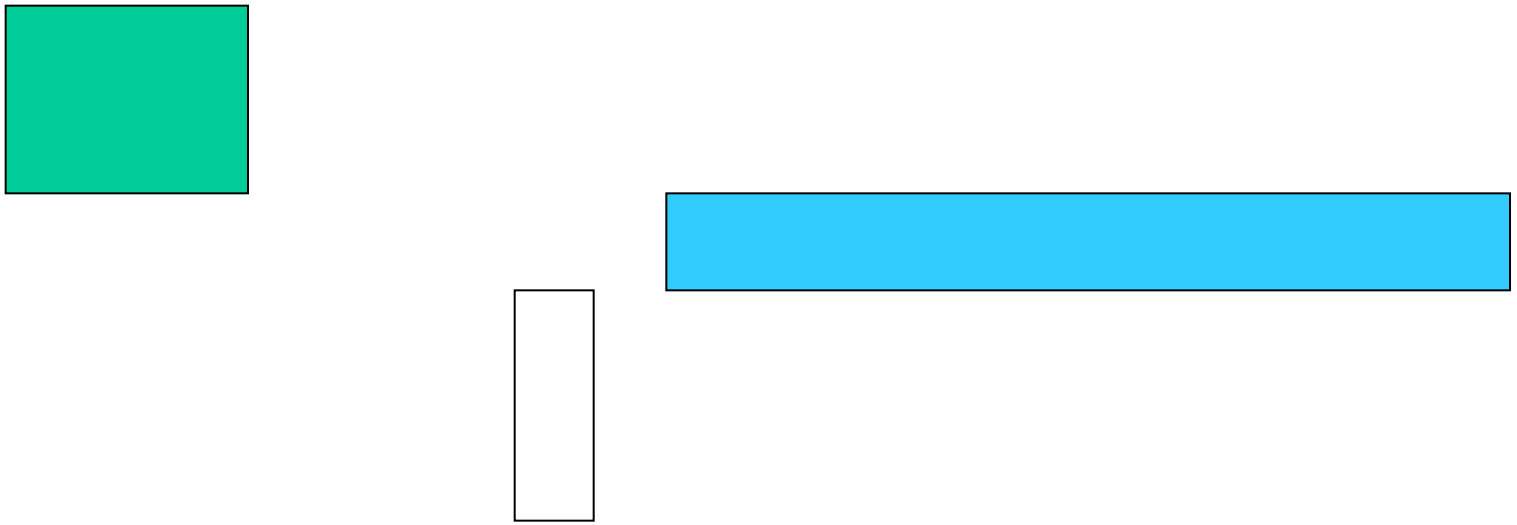
starter.main()

// sort of what is happening

So far, we have constructed an object of a class to call the class methods:

```
FilledRect tom;
tom = new FilledRect(5,5,5,5,canvas);
tom.move(5,5);
```

These objects have data values associated with each one.



What if a class has methods, but no data?

Like, the Math class…
min, max, abs, pow,…

What data would describe an object of the Math class?

Math methods: Math.abs()

Math utilities operate on the values passed into the method's parameters…. no objects are required.

Math methods: Math.abs()

```
public class Math
{
        public static int abs(int value)
        {
                int result;
                result = value;
                if(value < 0)
                {
                        result = - value;
                }
                return result;
        }
}
```

result is calculated directly from the method's formal parameter.

```
public class Math
{
        public static int abs(int value)
        {
                int result;
                // blah, blah….
```

```
public class another
{
        int sam;
        Math.abs(sam);
        // blah, blah
}
```

Next Lab

a) define a findMid method in your psvm class from lab27.

b) repeat, but define a class CVMath that contains a static method findMid and call it from your psvm

Any ?’s