```
class JavaFXTest {
  public static void main(String[] args) {
    System.out.println("JavaFX 2.0");
  }
}
```

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Formatted Strings

1.x

```
var x = 42;
var s = "Sense: {x}"
```

Java

```
int x = 42;
String s = String.format(
             "Sense: %d", x);
```

see java.lang.String

Sequences

1.x

```
var x = [["A", "B"], "C"];
var size = sizeof x
```

2.0

```
ObservableList<String> x =
    FXCollections
    .observableArrayList("A","B","C");
int size = x.size();
```

see javafx.collections.*

Create Range

1.x

```
var range = [3..7 step 2];
var slice = range[0..<2]
```

Java

```
List<Integer> range = // DIY
List<Integer> slice =
    range.subList(0, 2);
```

see java.util.List

Manipulate Sequence

1.x

```
var num = [0,3,8,9,6,7];
num[2..3] = [4,5];
num[1..0] = [1,2]
```

Java

```
num = ...
List<Integer> sub = num.subList(2,4);
sub.clear();
sub.addAll(Arrays.asList(4,5));
num.addAll(1, Arrays.asList(1,2));
```

see java.util.List

Sequence Select

1.x

```
var num = [0,3,8,9,6,7];
var e = num[x|x mod 2 == 0]
```

Java

```
num = ...
e   = ...
for (int x : num) {
   if (x % 2 == 0) {
      e.add(x);
   }
}
```

Trigger

1.x

```
var num = [] on replace old[lo..hi] = x {
  println("lo:  {lo}, hi: {hi}");
  println("old: {old}, x: {x}");
  println("result: {num}");
}
```

2.0

```
ObservableList<Integer> num =
    FXCollections.observableArrayList();
num.addListener(
  new ListChangeListener<Integer>() {
    public void onChanged(Change<? extends Integer> c) {
      while (c.next()) {
        System.out.printf(
            "lo:  %d, hi: %d%n" +
            "old: %s, new: %s%n" +
            "result: %s%n",
            c.getFrom(), c.getTo(),
            c.getRemoved(), c.getAddedSubList(),
            c.getList());
  } } } );
```

see javafx.collections.*

Functions

1.x

```
function mul(a : Number, b : Number) : Number {
  return a * b;
}
function foo(bar: function(Number, Number) : Number) :
    function(Number): Number {
  return function(x : Number) { return bar(x, x); }
}
println(foo(mul)(3))
```

Java

```
interface OneParamFunc { double op(double x); }
interface TwoParamFunc { double op(double a, double b); }

static TwoParamFunc mul = new TwoParamFunc() {
  public double op(double a, double b) { return a * b; }
};

static OneParamFunc foo(final TwoParamFunc bar) {
  return new OneParamFunc() {
    public double op(double x) { return bar.op(x, x); }
  };
}

System.out.println(foo(mul).op(3));
```

Binding

1.x

```
var x : Integer;
var y : Integer = bind x with inverse;
println("x: {x}, y: {y}");

x = 1;
println("x: {x}, y: {y}");

y = 2;
println("x: {x}, y: {y}")
```

2.0

```
IntegerProperty x = new SimpleIntegerProperty();
IntegerProperty y = new SimpleIntegerProperty();
y.bindBidirectional(x);

System.out.printf("x: %d, y: %d%n", x.get(), y.get());

x.set(1);
System.out.printf("x: %d, y: %d%n", x.get(), y.get());

y.set(2);
System.out.printf("x: %d, y: %d%n", x.get(), y.get());
```

see javafx.beans.property.*

User Interface

1.x

```
Stage {
  title: "Hello Application", width: 250, height: 80
  scene: Scene {
    content: Text { x: 10, y: 30, content: "Hello" }
  }
}
```

2.0

```
class Hello extends Application {
  public static void main(String[] args) {
    Application.launch(args);
  }
  @Override public void start(Stage primaryStage) {
    primaryStage.setTitle("Hello Application");
    primaryStage.setWidth(250);
    primaryStage.setHeight(80);
    Group root = new Group();
    Scene scene = new Scene(root);
    Text text = new Text(10, 30, "Hello");
    root.getChildren().add(text);
    primaryStage.setScene(scene);
    primaryStage.show();
} }
```

see javafx.application.*, javafx.stage.*, javafx.scene.*

User Interface Builder

2.0

```
Stage stage = new Stage();
stage.setTitle("Hello Application");
stage.setWidth(250);
stage.setHeight(80);
Group root = new Group();
Scene scene = new Scene(root);
Text text = new Text(10, 30, "Hello");
root.getChildren().add(text);
stage.setScene(scene);
```

```
Stage stage = StageBuilder.create()
  .title("Hello Application")
  .width(250)
  .height(80)
  .scene(
    SceneBuilder.create().root(
      GroupBuilder.create().children(
        TextBuilder.create().x(10).y(30).text("Hello").build()
      ).build()
    ).build()
  ).build();
```

see javafx.application.*, javafx.stage.*, javafx.scene.*