1. (a)

```
br test

top:  s

   test:  evaluate e into t
   cmp t, true
   breq top
```

(b)

```
top:  s

   test:  evaluate e into t
   cmp t, true
   brneq top
```

2. Here is one solution.

```
t := e
u := t - 13
ifsign u
<: w := t - 4
  ifsign w
  <: x := t - 2
    ifsign x
    <: br def
    =: s2
    >: br def
  =: s4
>: x := t - 12
  ifsign x
  <: br def
  =: s12
  >: br def
>: w := t - 88
  ifsign w
  <: x := t - 17
    ifsign x
    <: br def
    =: s17
    >: br def
```
3. Here is one solution. (This code actually compiles in Scala; yours need not.)

class RangeIterator(val r: Range) extends Iterator[Int] {
  var n = r.start
  def hasNext() : Boolean = n <= r.end
  def next() : Int = {
    val v = n
    n += 1
    v
  }
}