Algorithm 2 – BPM program

This program calculates whether someone doing exercise needs to work harder, steadily or slower. It does this based on their heart rate measured in beats per minute (BPM). In this program the values for BPM are stored in an array in a subroutine called getBPM.

```
def getBPM(index):
 1
          var = [70, 80, 100, 120, 125, 110, 120]
 2
          return var[index]
 3
 4
      seconds = 0
 5
      rest = 50
 6
 7
      i = 0
      while seconds < 200:
 8
          bpm = getBPM(i)
9
          effort = bpm - rest
10
          if effort <= 30:
11
12
               output = "faster"
13
          else:
               if effort <= 50:
14
                   output = "steady"
15
               else:
16
17
                   output = "slower"
18
          #start a new trace line here
          seconds = seconds + 60
19
          i = i + 1
20
```

Trace the values that each variable takes in the main program.

seconds	rest	i	bpm	effort	output