

```

.data
v1: .double 1.1, 2.2, 3.3, 4.4, 5.5, 6.6, 7.7, 8.8, 9.9, 10.10
    .double 11.11, 12.12, 13.13, 14.14, 15.15, 16.16, 17.17,
18.18
    .double 19.19, 20.20, 21.21, 22.22, 23.23, 24.24, 25.25,
26.26
    .double 27.27, 28.28, 29.29, 30.30, 31.31, 32.32
v2: .double 2.0, 4.0, 6.0, 8.0, 10.0, 12.0, 14.0, 16.0, 18.0,
20.0
    .double 22.0, 24.0, 26.0, 28.0, 30.0, 32.0, 34.0, 36.0,
38.0
    .double 40.0, 42.0, 44.0, 46.0, 48.0, 50.0, 52.0, 54.0,
56.0
    .double 58.0, 60.0, 62.0, 64.0
v3: .double 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.0,
4.1
    .double 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 5.0, 5.1,
5.2
    .double 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 6.0, 6.1, 6.2
v4: .space 256
v5: .space 256
v6: .space 256

```

```

.text
daddui r1, r0, 248 # r1 holds the index i=31 (multiplied by 8)
daddi r2, r0, -8 # r2 holds the value to evaluate the loop
condition
# (>= 0 corresponds to > -1, in my case -8
since its multiplied by 8)
cycle: l.d f1, v1(r1)
      l.d f2, v2(r1)
      #l.d f3, v3(r1) MOVED BELOW
      mul.d f4, f1, f1
      l.d f3, v3(r1)
      sub.d f4, f4, f2
      #s.d f4, v4(r1) MOVED BELOW
      div.d f5, f4, f3
      sub.d f6, f4, f1
      sub.d f5, f5, f2
      #s.d f5, v5(r1) MOVED BELOW
      #sub.d f6, f4, f1 MOVED ABOVE
      mul.d f6, f6, f5
      s.d f4, v4(r1)
      s.d f5, v5(r1)
      s.d f6, v6(r1)
      daddi r1, r1, -8
      bne r1, r2, cycle

```

```

halt

```