hypothesis that the data follows a binomial distribution for sample size 5 & 10
hypothesis that the data is normally distributed for sample size 100 & 10000

Test for ran0:

```
 Sample size 5:
  p is 1.199930e-01
  p > 0.05 => no reason to reject the hypothesis

 Sample size 10:
  p is 5.135425e-02
  p > 0.05 => no reason to reject the hypothesis

 Sample size 100:
  h = 0 => no reason to reject the hypothesis
  The returned p value is 4.699578e-01
  The returned k value is 8.308127e-02
  The critical value is 1.340323e-01

 Sample size 10000:
  h = 1 => reject the hypothesis
  The returned p value is 1.396542e-31
  The returned k value is 5.983861e-02
  The critical value is 1.356421e-02
```

Test for ran1:

```
 Sample size 5:

  p is 1.089804e-01
  p > 0.05 => no reason to reject the hypothesis

 Sample size 10:
  p is 5.222582e-02
  p > 0.05 => no reason to reject the hypothesis

 Sample size 100:
  h = 0 => no reason to reject the hypothesis
  The returned p value is 7.271588e-01
  The returned k value is 6.745719e-02
  The critical value is 1.340323e-01

 Sample size 10000:
  h = 1 => reject the hypothesis
  The returned p value is 2.116435e-31
  The returned k value is 5.966497e-02
  The critical value is 1.356421e-02
```

Test for ran2:

```
 Sample size 5:
  p is 8.576498e-02
  p > 0.05 => no reason to reject the hypothesis

 Sample size 10:
  p is 4.285119e-02
  p < 0.05 => reject the hypothesis
```

```
 Sample size 100:
  h = 0 => no reason to reject the hypothesis
  The returned p value is 5.005238e-01
  The returned k value is 8.111399e-02
  The critical value is 1.340323e-01

 Sample size 10000:
  h = 1 => reject the hypothesis
  The returned p value is 1.320204e-30
  The returned k value is 5.889429e-02
  The critical value is 1.356421e-02
```

Test for ran3:

```
 Sample size 5:
  p is 9.819820e-02
  p > 0.05 => no reason to reject the hypothesis

 Sample size 10:
  p is 5.444000e-02
  p > 0.05 => no reason to reject the hypothesis

 Sample size 100:
  h = 0 => no reason to reject the hypothesis
  The returned p value is 3.488662e-01
  The returned k value is 9.166234e-02
  The critical value is 1.340323e-01

 Sample size 10000:
  h = 1 => reject the hypothesis
  The returned p value is 4.837590e-35
  The returned k value is 6.307420e-02
  The critical value is 1.356421e-02
```

Test for ran4:

```
 Sample size 5:
  p is 1.033614e-01
  p > 0.05 => no reason to reject the hypothesis

 Sample size 10:
  p is 3.552783e-02
  p < 0.05 => reject the hypothesis

 Sample size 100:
  h = 0 => no reason to reject the hypothesis
  The returned p value is 5.299563e-02
  The returned k value is 1.329579e-01
  The critical value is 1.340323e-01

 Sample size 10000:
  h = 1 => reject the hypothesis
  The returned p value is 6.813763e-30
  The returned k value is 5.819471e-02
  The critical value is 1.356421e-02
```