In [7]:

```python
import numpy as np
import matplotlib.pyplot as plt
```

In [22]:

```python
r = np.random.randn(10000000)
```
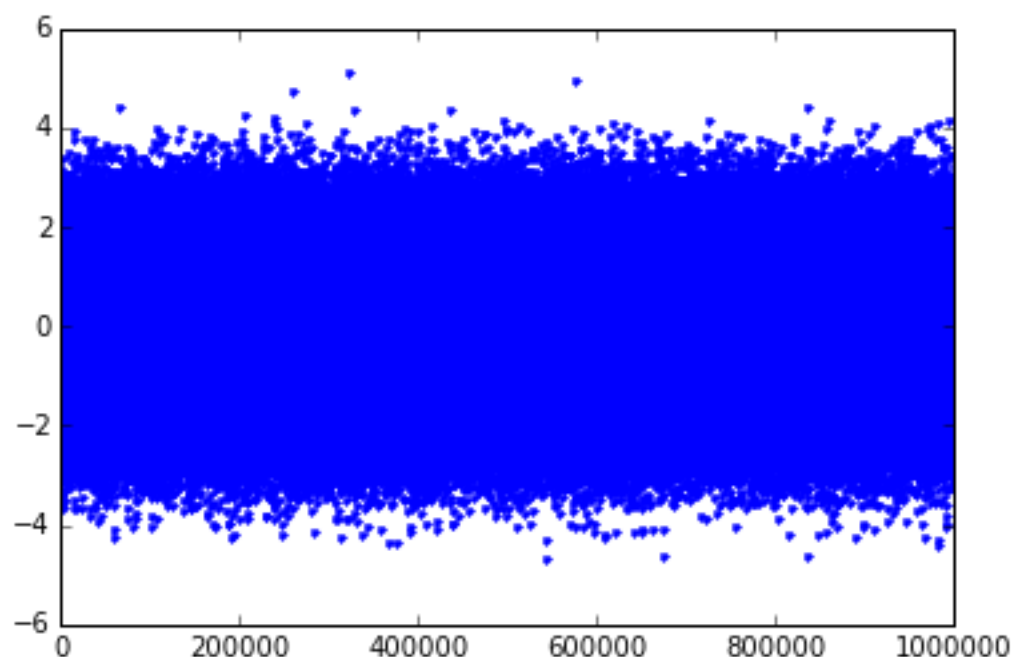
In [17]:

```python
plt.plot(r, '.')
```

Out[17]:

```
[<matplotlib.lines.Line2D at 0x10e56b610>]
```


In [23]:

```python
plt.hist(r, bins=100)
```
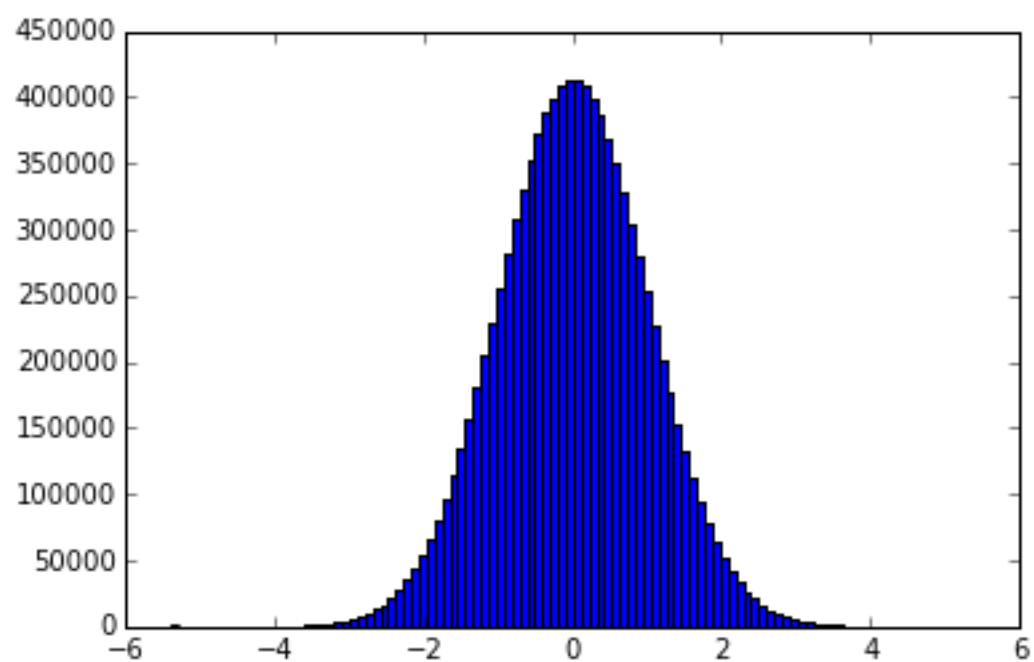
Out[23]:

```
(array([  1.00000000e+00,   0.00000000e+00,   1.00000000e+00,
         2.00000000e+00,   6.00000000e+00,   3.00000000e+00,
         2.00000000e+00,   8.00000000e+00,   1.30000000e+01,
         1.90000000e+01,   5.80000000e+01,   6.80000000e+01,
         1.04000000e+02,   1.50000000e+02,   2.03000000e+02,
         3.30000000e+02,   4.59000000e+02,   7.05000000e+02,
         1.00200000e+03,   1.38800000e+03,   2.08000000e+03,
         2.90900000e+03,   3.94100000e+03,   5.40300000e+03,
         7.36400000e+03,   9.89700000e+03,   1.29850000e+04,
         1.65710000e+04,   2.17150000e+04,   2.80150000e+04,
         3.51380000e+04,   4.39980000e+04,   5.45560000e+04,
         6.68700000e+04,   8.11840000e+04,   9.72620000e+04,
         1.14496000e+05,   1.34977000e+05,   1.57456000e+05,
         1.80970000e+05,   2.05156000e+05,   2.30259000e+05,
```

```
           2.56284000e+05,   2.82806000e+05,   3.07252000e+05,
           3.30520000e+05,   3.53050000e+05,   3.72149000e+05,
           3.88210000e+05,   3.99782000e+05,   4.08623000e+05,
           4.13407000e+05,   4.12270000e+05,   4.08195000e+05,
           3.99539000e+05,   3.86432000e+05,   3.69127000e+05,
           3.49590000e+05,   3.28918000e+05,   3.03751000e+05,
           2.78956000e+05,   2.53121000e+05,   2.26735000e+05,
           2.01103000e+05,   1.77270000e+05,   1.53378000e+05,
           1.31958000e+05,   1.12537000e+05,   9.42370000e+04,
           7.86400000e+04,   6.48570000e+04,   5.25400000e+04,
           4.26730000e+04,   3.40610000e+04,   2.64420000e+04,
           2.09920000e+04,   1.62160000e+04,   1.21720000e+04,
           9.43400000e+03,   6.99600000e+03,   5.11000000e+03,
           3.88000000e+03,   2.70400000e+03,   1.96000000e+03,
           1.35700000e+03,   9.97000000e+02,   6.83000000e+02,
           4.49000000e+02,   3.18000000e+02,   2.13000000e+02,
           1.33000000e+02,   8.70000000e+01,   5.10000000e+01,
           4.00000000e+01,   2.70000000e+01,   1.90000000e+01,
           8.00000000e+00,   7.00000000e+00,   4.00000000e+00,
           6.00000000e+00]),
 array([-5.3846728 , -5.28096788, -5.17726295, -5.07355803, -4.9698531 ,
        -4.86614817, -4.76244325, -4.65873832, -4.5550334 , -4.45132847,
        -4.34762354, -4.24391862, -4.14021369, -4.03650876, -3.93280384,
        -3.82909891, -3.72539399, -3.62168906, -3.51798413, -3.41427921,
        -3.31057428, -3.20686936, -3.10316443, -2.9994595 , -2.89575458,
        -2.79204965, -2.68834473, -2.5846398 , -2.48093487, -2.37722995,
        -2.27352502, -2.16982009, -2.06611517, -1.96241024, -1.85870532,
        -1.75500039, -1.65129546, -1.54759054, -1.44388561, -1.34018069,
        -1.23647576, -1.13277083, -1.02906591, -0.92536098, -0.82165605,
        -0.71795113, -0.6142462 , -0.51054128, -0.40683635, -0.30313142,
        -0.1994265 , -0.09572157,  0.00798335,  0.11168828,  0.21539321,
         0.31909813,  0.42280306,  0.52650799,  0.63021291,  0.73391784,
         0.83762276,  0.94132769,  1.04503262,  1.14873754,  1.25244247,
         1.35614739,  1.45985232,  1.56355725,  1.66726217,  1.7709671 ,
         1.87467202,  1.97837695,  2.08208188,  2.1857868 ,  2.28949173,
         2.39319666,  2.49690158,  2.60060651,  2.70431143,  2.80801636,
         2.91172129,  3.01542621,  3.11913114,  3.22283606,  3.32654
```

099,

         3.43024592, 3.53395084, 3.63765577, 3.7413607 , 3.84506
562,

         3.94877055, 4.05247547, 4.1561804 , 4.25988533, 4.36359
025,

         4.46729518, 4.5710001 , 4.67470503, 4.77840996, 4.88211
488,

         4.98581981]),
 <a list of 100 Patch objects>)

In [ ]: