**Solution: NumPy Final Exercise**

(1) a = np.array([1,2,3])

(2) b = a.astype(float)

(3) a = np.arange(11, dtype=int)

(4) a = np.linspace(0,23,7)

(5) a = np.ones((2,5,1,5,2,1))\*5.0

(6) a = np.squeeze(a)

**print**(a.shape)

(7) c = a.reshape((10,10))

(8) a = np.arange(10)

b = np.arange(5)

a[5:] = b[5::-1]

(9) a = np.random.normal(loc=21.,scale=4.5,size=(3,3,12,3))

(10) **print**(a.mean())

**print**(a.std())

**print**(a.var())

**print**(a.max())

**print**(a.min())

(11) **print**(a.mean(1))

**print**(a.std(1))

**print**(a.var(1))

**print**(a.max(1))

**print**(a.min(1))

(12) a = a.flatten()

(13) b = a[(a>15)&(a<26)]

(14) b = a.clip(15,26)

b[b==15] = np.NaN

b[b==26] = np.NaN

(15) **print**(np.nansum(b)

(16) **print**(b.mean())

(17) c = np.nan\_to\_num(b)

(18) np.savetxt('lastarray.gz',c)

c\_loaded = numpy.loadtxt('lastarray.gz')