

## Task 12

	signed	unsigned
Int 8	127	255
Int 16	32767	65535
Int 32	2,147,483,647	4,294,967,295
Int 64	9,223,372,036,854,775,807	18,446,744,073,709,551,615
Float	-3.4E+38 to +3.4E+38	
Double	-1.7E+308 to +1.7E+308	

## 2\_Create 5D array in python :

```
import numpy as np
```

```
a =
```

```
np.array([[[[1,2,3],[4,5,6]],[[7,8,9],[10,11,12]],[[13,14,15],[16,17,18]]])
```

```
a = np.expand_dims(a, axis=0)
```

```
a = np.repeat(a, 5, axis=0)
```

```
print(a)
```

OR

```
arr=np.array(range(729)).reshape(3,3,3,3,3,3)
```

```
print(arr)
```

## 3\_what is Variance ?

calculate the difference between each point within the data set and the mean

## ***Task 12***

### **4\_Split array into 3 parts**

```
x = np.array(range(9))
```

```
np.hsplit(x, 3)
```

### **5\_Data science tools .**

1. Scikit-learn
2. TensorFlow
3. NLTK (NLP)
4. Matplotlib
5. Tableau
6. ggplot2 (data visualization in R)
7. Excel