

Python Basics Assignment – Solutions

1. sort is applicable for only lists and it sorts the list in place i.e. the original list. sorted is applicable for any iterable and it generates a list of sorted elements. The original iterable is unchanged with sorted function.

sorted has more useful functionality with key option:

Ex:

```
student_tuples = [  
    ('john', 'A', 15),  
    ('jane', 'B', 12),  
    ('dave', 'B', 10), ]
```

```
> sorted(student_tuples, key=lambda student: student[2]) # sort by age  
[('dave', 'B', 10), ('jane', 'B', 12), ('john', 'A', 15)]
```

2. a = [90, 22, 34, 67, 23, 1, 2, 100, 99]

```
for j in range(1, len(a)):  
    for i in range(1, len(a)-j+1):  
        if(a[i-1] > a[i]):  
            a[i-1], a[i] = a[i], a[i-1]
```

```
print("List sorted:", a)
```

3. It's same both for numeric and string types.

By keys:-

```
for key, value in sorted(mydict.items(), key=lambda x:x[0]):  
    print key, value
```

By values:

```
for key, value in sorted(mydict.items(), key=lambda x:x[1]):  
    print key, value
```

4. In 2.x raw_input considers every thing as a string and can not recognize variables. input function can recognize the type of the data entered and can recognize variables.

In 3.x raw_input is removed and input function acts like 2.x raw_input. To get 2.x input behavior we need to use eval in combination with input.

5. vtr = "hi how are you where are you how are you doing"

```
def findnth(full, old_word, n):  
    num = 0  
    start = -1  
    #n is repetition of the word to be replaced  
    while num < n:
```

```
#find method is used to find the index of the word in the string
    start = full.find(old_word, start+1)
    num = num + 1
if start == -1:
    return -1
return start
```

```
def replacenth(full, old_word, new_word, n):
    start = findnth(full, old_word, n)
    return full[:start]+new_word+full[start+len(old_word):]
```

```
print(replacenth(vtr, "are", "hello", 2))
```

6. a = [23, 56, 12, 89, 44]
b = [33, 22, 11, 55, 90]

```
addition = [i+j for i,j in zip(a,b)]
print("Addition:", addition)
```