Business Analytics Programming 2019, Practice Set # 1

1. **What is x[3]?** [4] With List, there is no math happen.

```
x=[1,2,3,4,5]
```

2. **What is z?**

```
x=[1,2,3,4,5]
y=[10,11,13,14,15]
z=x+y
```

[1,2,3,4,5,10,11,13,14,15]

3. **What is x*2?**

```
x=[1,2,3,4,5]
```

[1,2,3,4,5,1,2,3,4,5]

4. **What is x[2:]?**

```
x=[1,2,3,4,5]
```

[3,4,5]

5. **What is x[:2]?**

```
x=[1,2,3,4,5]
```

[1,2]

6. **What is x?**

```
x=[1,2,3,4,5]
x.append(9)
```

[1,2,3,4,5,9]

7. **What is y?**

```
x=[1,2,3,4,5]
y=x
x[1:2]=[10,12]
```

x=[1,10,12,3,4,5] Both x and y change
y=[1,10,12,3,4,5]

8. **What is y?**

```
x=[1,2,3,4,5]
y=x.copy()
x[1:2]=[10,12]
```

x=[1,10,12,3,4,5]
y=[1,2,3,4,5]

9. **What is z?**

```
x=[1,2,3,4,5]
y=[10,11,13,14,15]
z=[]
for i in range(len(x)):
  z.append(y[i]+x[i])
```

z=[11,13,16,18,20]
5
we are adding the value of data containers

range(5) give list [0,1,2,3,4]
And for loop will run 5 times

10. What is M1[2] ?

```
M1=[4,2,1,3,1,2]
M2=range(len(M1)-1)
M3=range(M2[3]+M1[2])
```

11. What is M2[M3[2]+1] ?

```
M1=[4,2,1,3,1,2]
M2=range(len(M1)-1)
M3=range(M2[3]+M1[2])
```

12. What is M2[M2[M1[3]]] ?

```
M1=[4,2,1,3,1,2]
M2=range(len(M1)-1)
M3=range(M2[3]+M1[2])
```

13. What is z[8]+z[3]?

```
M1=[4,2,1,3,1,2]
M2=range(len(M1)-1)
M3=range(M2[3]+M1[2])
z=list(M1) + list(M3)
```

14. What is b[3]?

```
vv=[2,1,4,5,3]
a=[2,4,4,2,4]
b=[]
for i in vv:
    if i<4:
        b.append(i)
    else:
        x=i*3
        b.append(x)
```

15. What is b[3]?

```
vv=[2,1,4,5,3]
a=[2,4,4,2,4]
b=[]
for i in vv:
    if i<4:
        b.append(i)
    else:
        x=i*3
        b.append(x)
```

16. What is c[4]?

```
vv=[2,1,4,5,3]
a=[2,4,4,2,4]
c=[]
for i in range(len(vv)):
    if i<4:
        c.append(vv[i]+a[i])
    else:
        x=i*3
        c.append(vv[i]*a[i])
```

17. What is m?

```
m = np.array([1,2,3,4,5,6])
m[0:2]=[10,11]
```

18. What is v?

```
v=np.array([1,4,5,6])
v[0:2]=[8,9]
```

19. What is v?

```
v=np.array([1,4,5,6])
w=np.array([20,15,10,5])
v[1:3]=w[0:2]
```

20. What is m1[0,1]?

```
m1 = np.array([1,2,3])
m2 = np.array([5,4,3])
m3=m1+m2
```

21. What is a?

```
a = np.arange(5)
a[2]=8.5
```

22. What is a?

```
a = np.arange(5)
a = a*2.5
a[2]=7.7
```

23. What is a?

```
a = np.arange(5.)
a[2]=8.5
```

24. What is c?

```
a = np.arange(5)
b = np.arange(4)
c = a+b
```