

Study guide CST100 final exam

1) What will be the output of the following code?

```
quote = "Learning python is fun"
print(quote[1:8:])
```

2) What will be the output of the following code?

```
quote = "Learning python is fun"
print(quote[0:8:])
```

3) What will be the output of the following code?

```
quote = "Learning python is fun"
print(quote[-3::])
```

4) What will be the output of the following code?

```
len("I like python")
```

5) What will be the output of the following code?

```
print("fun"[-1:-2:-1]*3)
```

6) What will be the output of the following code?

```
fruit = ["banana", "cherry"]  
x = 'banana' in fruit  
print(x)
```

7) What will be the output of the following code?

```
fruit = ["banana", "cherry"]  
x = 'banana' in fruit  
print(x)
```

8) What are lists? And what are different ways of creating a list?

9) Suppose you have a list of 10 numbers from 1 to 11 and want to print only the even numbers in this list. How can you slice the even numbers? Hint: you can use the step option in the list.

10) What is the difference between a Tuple and a List?

11) What will be the output of the following code?

```
1. def outside():
2.     a = 1
3.     def inside():
4.         b = 2
5.         print("b: ", b)
6.     inside()
7.     print("a: ", a)
8. outside()
```

12) Consider the following code:

```
1. class Point:
2.     def __init__(self):
3.         self.x = 0
4.         self.y = 0
5.
6. p = Point()
7. q = Point()
8. print(p is q)
```

What will be the output?

13) How many instances of the class Point are created in the previous code?

14) Consider the following code:

```
text = 'Python is fun'
i = 0
while i!=len(text):
    print(text[i], end=' ')
    i += 1
```

What will be the output?

15) What will be the output of the following code?

```
x = 11

if(x>=0 and x<5):
    print("x is between 0 and 5")
elif(x>=5 and x<11):
    print("x is between 5 and 11")
elif(x==11):
    print("x is 11")
else:
    print("x is not between 0 and 11")
```

16) What will be the output of the following code?

```
len( [10, 20])
```

17) What will be the output of the following code?

```
fruit = ["apple", "orange", "cherry"]
if('cherry' in fruit):
    print("cherry is a fruit")
else:
    print("cherry is not a fruit")
```

18)How can you find the length of a list and how can you reference an item on an index in the list?

19)What is a local variable in a python class?

20)Try the following code and see what will be the output

```
1. # python-local-variable.py
2. def function_local(a):
3.     print('a is -> ',a)
4.     a = 50
5.     print('After new value within the function a is -> ',a)
6. a = 100
7. function_local(40)
8. print('Value of a is ->',a)
```

21)If you have two lists, how will you merge the two lists such that the new list has all the items of both the lists in any order?

22)Try out the following code:

```
alist = [1,2,3,4]
blist = [5,6]
for item in alist:
    blist.append(item)
print(blist)
```

23) Is the previous code merging the list in the correct numerical order, such that the final list is `[1,2,3,4,5,6]`? If not, how can it be fixed to do it?

24) Following code defines a dictionary.

```
contact = {'Name': 'Zara', 'Age': 7, 'Class': 'First',  
           'phone': '4801234567'}
```

How can I print this contact? How can I only print the name of contact from the dictionary?

25) How can we update a value in a dictionary?

26) What is wrong with this code?

```
1. class Point:  
2.  
3.     def __init__(self, initX, initY):  
4.  
5.         self.x = initX  
6.         self.y = initY  
7.  
8.     def getX(self):  
9.         return self.x
```

```
10.  
11.     def getY(self):  
12.         return self.y  
13.  
14.     def __str__(self):  
15.         return str(self.x)+","+str(self.y)  
16.  
17.  
18. p = Point(7)  
19. print(p)
```

27) Try this code, does it run correctly?

```
class Ball:  
    def __initializer__(self, color, size):  
        self.color = color  
        self.size = size  
ball = Ball("Blue")  
  
print(ball)
```

If it is not running correctly, how can it be fixed?

28) What is the output of the following python code:

```
for i in range(5):  
    print(i,end=', ')
```

- a) 0, 1, 2, 3, 4,
- b) 0, 1, 2, 3, 4, 5,
- c) 1, 2, 3, 4,
- d) 1, 2, 3, 4, 5,

29) What is the output of the following python code:

```
1. number = 0
2. def check_x(x):
3.     if (True and False):
4.         print("number is greater")
5.     elif (False or False):
6.         print("number is less ")
7.     else:
8.         print("Now", x)
9.
10.
11.     while(True):
12.         check_x(number)
13.         number += 1
14.         if(number>5):
15.             break
```

30) What is the output of the following python code:

```
1. class stringTest:
2.     text = "Hello "
3.     def __str__(self):
4.         return str(self.text)
5.
6. str1 = stringTest()
7. str1.text += "Java"
8. str2 = stringTest()
9. str2.text += "Python"
10.
11. print(str1)
```

31) What is the output of the following python code:

```
1. class functionTest:
2.     x = 5
3.     z = 3
4.     def __init__(self,x,z):
5.         self.x = x
6.         self.z = z
7.
8.     def bar(self):
9.         print(self.z)
10.
11.
12.     def foo(self,x):
13.         self.x = 5
14.         print(self.x)
15.
16. ft =functionTest(2,3)
17. ft.foo(10)
18. ft.bar()
```

32) Consider the following python code, what will be the output?

```
x = 0

for i in range(3):
    for j in range(3):
        for k in range(3):
            x += 1

print(x)
```

- a) 3
- b) 6
- c) 9
- d) 27

33) If the code of the previous question is changed like this:

```
x = 0

for i in range(0,3,1):
    for j in range(3):
        for k in range(3):
            x += 1
        print(x)
```

Now what will be the output?

34) What will be the output of the following code?

```
a = 10%6
b = 8//2
if(a>b):
    print('yes')
else:
    print('no')
```

35) What will be the output of the following code?

```
1. a = 7
2. b = 99
3. c += b
4. b -= a
5. a == c
6. print('a: ',a, ' b:',b, 'c: ',c)
```

36)What will be the output of the following code? *This code is different from previous question, look at line 9.*

```
1. a = 7
2. b = 99
3. c = b
4. b -= a
5. a == c
6. print('a: ',a, ' b:',b, 'c: ',c)
```

37)What will be the output of the following code?

```
def numTest(x):
    if(x>6 and x<8):
        return 1
    else:
        return 0

print(numTest(7))
```

38)What will be the output of the following code?

```
class strTest:
    str = "jumping "
    def __init__(self,str):
        self.str = str

    def doOutput(self,x):
        print(x[0])

ft =strTest("w")
ft.doOutput("w")
```

39)What will be the output of the following code?

```
for i in range(0,-5,-1):  
    print("jump"+"ing "[0:4:1])*3
```

40)What will be the output of the following code?

```
print("loops"[(2/2)::]*2)
```

Try this code out.

```
print("loops"[int((2/2))::]*2)
```