Quiz 7

1. Consider the following variable declarations:

```
x = 1
y = 2
z = 3
b = True
ch1 = 'A'
ch2 = 'B'

def is_even(n):
    return n % 2 == 0
```

Write a new boolean expression that is the negation of each of the following Boolean expressions. You need to apply De Morgan's laws to simplify the expression rather than simply writing a "**not**" at the beginning of each entire expression.

(e.g.)	`x > 1`	Acceptable: `x <= 1` Not acceptable: `not (x > 1)`
(a)	`x > y and y > z`	
(b)	`x % 2 != 0 or ch1 == ch2`	
(c)	`ch1 >= '0' and ch1 <= '9'`	
(d)	`not b or is_even(x)`	

2. What is the output for the following code. Write 'error' if you think the code will crash during execution.

```
# Part 1
students = [('Alwyn', 12), ('Tim', 12)]
students[1] = ('Jerry',13)
print(students[1])
```

Answer:

```
# Part 2
def do_something(numbers):
   for i in range(len(numbers) -1, 0, -1):
       temp = numbers[i]
       numbers[i] = numbers[i - 1]
       numbers[i - 1] = temp

numbers = [1, 2, 3]
do_something(numbers)
print(numbers)
```

Answer:

3. Draw the memory state diagram for the following program at the point of time when the program reaches line 4:

```
1    def do_magic(fruit_list):
2       copy = fruit_list
3       copy.append('durian')
4       # How does the memory state diagram look here?
5
6    fruits = ['apple']
7    do_magic(fruits)
     print(fruits)
```

Answer:

4. Write a program that keep prompting the user for a response until he said yes or no (case-insensitive).
    a. If the user says yes, print "*flying kiss*".
    b. Otherwise, print "*heart broken*".
    c. For any wrong response, the program will print an ellipsis ("...").

Sample Run 1:

```
will you marry me?What
...
will you marry me?Say louder
...
will you marry me?Yes
*flying kiss*
```

Sample Run 1:

```
will you marry me?Yoyo
...
will you marry me?repeat again
...
will you marry me?NO
*heart broken*
```

```
# Answer:
```