

## Final exam review: winter 2013

### Written questions

1. Modify the program below so it builds the list by reading one line at a time from the input file 'input.txt'. Each line becomes a new row added to the end of the list.

```
source = open("input.txt", "r")
list = []
<< Write your answer here >>
```

<< End of answer space >>

2. Write a function 'swap' that takes two numbers as parameters. This function is to swap what's currently stored in the numbers and return the two numbers back to its caller. You can add new statements to the swap function but you can't delete or rewrite the existing statements below.

```
def swap (num1, num2):
    << Write your answer here >>
```

```
<< End answer space >>
return (num1, num2)
```

```
def start():
    num1 = int(input("First number: "))
    num2 = int(input("second number: "))
    num1, num2 = swap (num1, num2)
    # Numbers are swapped now
```

```
start()
```

3. Write an additional function for the following program called 'displayGrid' that will display each list element bound above, below, left and right by bounding line as shown in Figure 1).

```
def initialize():
    aList = [['X', ' ', 'O'],
             [' ', 'X', 'O'],
             [' ', 'O', 'X']]
    return(aList)
```

<< Define the function here >>

<< End of answer space >>

```
def start():  
    aList = initialize()  
    displayGrid(aList)
```

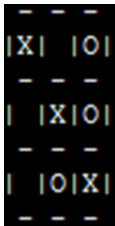


Figure 1: Grid bounding each list element

4. What is the output of the following program?

```
num1 = 1
```

```
def fun1 (num2):  
    print("2:", num1, num2)
```

```
def fun2 (num1, num2):  
    print("3:", num1, num2)
```

```
def fun3 (num2):  
    num1 = 10  
    num2 = 20  
    print("4:", num1, num2)
```

```
def fun4 (num2):  
    global num1  
    num1 = 7  
    num2 = 13  
    print("6:", num1, num2)
```

```
def start():  
    num2 = 2  
    print("1:", num1, num2)  
    fun1 (num2)  
    fun2(num1, num2)  
    fun3(num2)  
    print("5:", num1, num2)  
    fun4(num2)  
    print("7:", num1, num2)
```

start()

<< **Write your answer here** >>

### Multiple choice questions

1. In terms of the section on computer history which of the following statements is/are true?
  - (a) The explosive growth of the Internet resulted in the widespread use of microcomputers.
  - (b) IBM started manufacturing microcomputers long before Apple entered the market and thus gained a competitive foothold.
  - (c) The first kit-based home computer was the IBM-PC.
  - (d) IBM's first microcomputer operating system was written by Apple.
  - (e) None of the above.
2. Based on what you see in the program below which of the following is/are true of 'num'?

```
num1 = 1
```

```
def fun1 ():  
    print(num1)
```

- (a) Num is a local variable.
  - (b) Num is a global variable.
  - (c) There is an error in the creation of num.
  - (d) Num is a parameter to the function
  - (e) Num is the function return value
3. Which of the following is correct about the last statement in the series of statements shown below?

```
window = Tk()  
aDrawingCanvas = Canvas(window,width=640,height=480,bg ="grey")  
aDrawingCanvas.create_rectangle(30,40,50,60)
```

- (a) It creates a rectangle with a width 30 and height of 40
- (b) It creates a rectangle with a width 40 and height of 30
- (c) It creates a rectangle with a width 50 and height of 60
- (d) It creates a rectangle with a width 50 and height of 50
- (e) It creates a rectangle with a width 60 and height of 50

JT: Good luck with your finals.