Study Guide for CSCI125 Midterm III

The exam will have two parts: written part and programming part. In the written part of exam, no computers are allowed. You may bring notes on 3x5 index card (both sides). Please remember that the exam will test you on concepts not facts.

**Topic covered:**

* Python for loop, nested loop, 2D array , recursion
* Event driven program, Python GUI programming
* Tuple, tuple assignment, Dictionary, File I/O

**How to review:** Please check in-class exercise, and lecture notes.

**Sample Questions:**

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| 1. What is the output?   >>> code = [[0,1,2], [1,3,4]]  >>> print(code[1][2])    2. Print only the odd numbers between 1 and 50.  3. Write a nested loop to print the following table.  (1,1) (1,2) (1,3)  (2,1) (2,2) (2,3)  4. What is printed by the Python code?  *def f1(x):*  *return x - 1*  *def f2(x):*  *r = 2\*f1(x)*  *return r*  *print(f2(4))*  5. What is printed by the Python code?  *s = "My Homework"*  *print(s[:4])*  6. What does the following code do?  (a , b) = ( 4, 5)  7. Write down the python statement that will open file “keycode.txt” for read.  8. Which of the following Python statement will create a window for an application?  *tkinter.Frame()*  *tkinter.Tk()*  *tkinter.Entry()*  9. Write Python statement that create a Label widget inside of frame, with text content “Enter the code”. | 10. Use dictionary data type to store the following information.  1 cup Whole Milk 150 Calories  60 gms Paneer 150 Calories  1 tbsp Butter 45 Calories    11. Which python statement will create an image object?  *image = PhotoImage(file='surprise.gif')*  *image = Image('surprise.gif')*  12. (**Programming**) Write python program to generate the following multiplication table.  C:\Users\YilianZ\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\89D89F9B.tmp  13. (**Programming**) Write a recursive function that return the nth number of a special recursive sequence. The sequence starts with 3 and follow the recursive rule rec(n) = 2\*rec(n-1) -2.  **def rec(n)**  14: (**Programming)** Write a recursive python function that returns nth row of Pascal's triangle.  C:\Users\YilianZ\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\98C0D1D6.tmp |