

CPSC 231: Extra midterm review questions

Multiple choice questions

1. The UNIX command _____ could be used to see the contents of a file.
 - a. cd
 - b. ls
 - c. more
 - d. see
 - e. None of the above commands would allow you to view a file.

2. In terms of a Python program which of the following is true about the variable 'num' in the program below?
`num = 3.14`
 - a. num is a floating point variable
 - b. num is an integer variable
 - c. num is a real number variable
 - d. num is a string variable
 - e. The type of information associated with variable num cannot be determined solely from the above program

3. What will be the output of the following program?
`name = input ("Type in your name: ")
print("Name:", name)`
 - a. Name name
 - b. Name: name
 - c. Name: James Tam
 - d. Name: James Bond
 - e. None of the above selections correctly and completely characterize the output

4. Which operator is used for finding the remainder of a division operation?
 - a. *
 - b. %
 - c. exp()
 - d. exponent()
 - e. None of the above

How many times will the loops in Question 5 - 7 execute

5.

```
i = 1
while (i <= 7):
    print(i)
    j = 11
```

- a. 9
- b. 10
- c. 11
- d. This loop will never execute
- e. This is an endless loop

6.

```
for i in range (0, 13, 3):
    print (i)
```

- a. 4
- b. 5
- c. 6
- d. 13
- e. 14

7.

```
i = 1
while (i < 7):
    print(i)
    i = i + 1
```

- a. 0
- b. 1
- c. 6
- d. 7
- e. This is an endless loop

Short answer questions

Question 1:

In the space provided you are to specify the output of the following program.

```
print("t\t\\n")
print('...')
```

<< Start answer space >>

<< End answer space >>

Question 2:

What's the output of the following program?

```
x = "sheen"
y = 51
z = 1/3
print("%d\n%d\t%s" %(-7, "miley"))
print("\%6s\ '-4%-3d%.2f" %(x,y,z))
```

<< Write your answer here >>

<< End of answer space >>

Question 4:

Canada employs a 'progressive tax' system (primary source: <http://www.cra-arc.gc.ca/tx/ndvdl/fq/txrts-eng.html>). The following is a modification of the actual tax system. If \$10,822 or less then you pay no income tax. Income over \$10,822 up to and including 43,561 is taxed at 15%. For income more than \$43,561, but not more than \$87,123, the tax rate is 22%. For income more than \$87,123, but not more than \$135,054, the tax rate is 26%. For income is more than \$135,054, the tax rate is 29%. For the purposes of this question a person will only be classified into one of the above tax brackets e.g., a person earning \$100,000 pays a 26% tax rate. Modify the program below so that it calculates and displays: the amount of tax owed and income after taxes have been deducted.

```
grossIncome = 0
taxesOwed = 0
incomeAfterTaxes = 0
grossIncome = int(input("Enter your yearly income: "))
```

(Write you answer on the next page, on an actual exam you could use the above space for rough work).

<< Write your answer here >>

<< End of answer space >>

```
incomeAfterTaxes = grossIncome - taxesOwed
print("Gross income %d" %grossIncome)
print("<Less tax %d>" %taxesOwed)
print("Income after taxes %d" %incomeAfterTaxes)
```

Question 5:

(From the University of Calgary calendar 2012 - 2013 Page 338). The prerequisites for CPSC 331 are the following: "One of Computer Science 219, 233, 235 [JT: the calendar includes Computer Engineering 339 but for simplicity you can exclude it from this question] and one of Mathematics 271 or 273". Modify the following program so that the message "pre-requisites met" appears if the student has taken the appropriate course and the message and the message pre-requisites not met" otherwise. You can assume that the course information will come in as a string: Computer Science courses will be abbreviated as CPSC, math courses abbreviated as MATH. The format will be as follows <Course name><Space><Course number> e.g. CPSC 231

```
cpscCourseTaken = input("What Computer course have you taken: ")
mathCourseTaken = input("What Math course have you taken: ")
```

Write you answer on the next page, on an actual exam you could use the above space for rough work).

<< Write your answer here >>