1) Fill in the blanks of the text below. There are 9 blanks and each blank is worth one mark. This question is scored out of 8; a maximum of 9 will be awarded.

RAM (_____Random Access Memory_____) is volatile. This means that the data

stored in RAM disappears if the power is cut. This is not the case with ROM

(_____Read Only Memory_____) which is used for long-term storage.

Operating systems needs at least one process to execute the program. The ____CPU____

can only work with one of these at a time. To make it appear that programs are running

simultaneously, the scheduler allocates tiny amounts of time to each and

_____switches_____ between them.

Computers are typically structured using the _____von Neumann Architecture_____.

This approach has a Control Unit that acts as a stage manager and an ALU (Arithmetic

Logic Unit) that carries instructions. The execution of these instructions is described by

the _____von Neumann Cycle_____.

_____ENIAC_____ was the first electronic computer built in the late 1940s. It

contained 17,468 vacuum tubes, which have been replaced in modern computers by

_____transistors_____. Moore's Law states that the number of these on a

processor will double every _____24_____ months.

2) Examine the following small Python programs.   Determine the values of the variables or the output to the screen at the end of each program's execution. Use quotation marks around string values and decimals for floats. There are 9 variables or outputs and each is worth one mark. This question is scored out of 8; a maximum of 9 will be awarded.

```python
x = 2 * 2**1 * 2
y = "{0:b}".format(x)
```

x: _____8_____

y: _____'1000'_____

```python
a = 8 - 21 // 7
b = 6 + 10 / 5 - 3
c = a + a * a / a
```

a: _____5_____

b: _____5.0_____

c: _____10.0_____

```python
print("20", 4, str(5) + \
    " =", sep=" - ", \
    end=" 11")
```

output:

_____20 - 4 - 5 = 11_____

```python
msg = "{0} is {0:.2f}"
msg = msg.format(2.356)
```

msg:

_____2.356 is 2.36_____

```
sub = 6
bySub = 4

def doSub(num):
    sub = num - bySub
    return sub

def main():
    global sub
    bySub = doSub(sub)

main()
```

sub: _____6_____

bySub: _____4_____

3. a) There are 16 ounces in a pound and 28.35 grams in an ounce.

Write a function `printTotalGrams(…)` that has two parameters: one for the number of pounds and one for the number of ounces. This function must calculate the total grams from these values and print it to the screen as follows:

```
The total number of grams is 963.9
```

This question is scored out of 4.

```
def printTotalGrams(pounds, ounces):
    grams = (pounds * 16) + ounces
    grams = grams * 28.35
    print("The total number of grams is", grams)
```

b) Write a `main()` function that asks the user for a number of pounds and a number of ounces. Use these values to call the function `printTotalGrams(…)`. Here is the sample output:

```
What is the number of pounds? 2
What is the number of ounces? 2

The total number of grams is 963.9
```

This question is scored out of 4.

```python
def main():
    pounds = int(input("What is the number of pounds? "))
    ounces = int(input("What is the number of ounces? "))
    print()
    printTotalGrams(pounds, ounces)
```