Chap 01 Exercises David Marrash

**Exercise 1:** What is the function of the secondary memory in a computer?

a) Execute all of the computation and logic of the program  
b) Retrieve web pages over the Internet  
c) Store information for the long term, even beyond a power cycle  
d) Take input from the user

**Exercise 2:** What is a program?

**>>>** A set of instructions that specifies a computation.

**Exercise 3:** What is the difference between a compiler and an interpreter?

**>>>** A compiler translates the entire source code into machine code at once, creating an executable file, while an interpreter translates and executes code line by line

**Exercise 4:** Which of the following contains “machine code”?

a) The Python interpreter  
b) The keyboard  
c) Python source file  
d) A word processing document

**Exercise 5:** What is wrong with the following code:

>>> primt 'Hello world!'

File "<stdin>", line 1

primt 'Hello world!'

^

SyntaxError: invalid syntax

>>>

The code provided contains a syntax error due to a typo in the keyword for

printing text. The keyword 'print' is misspelled as 'primt'. In Python, the

correct way to output the string 'Hello world!' to the console is by using

the print function like this:

print('Hello world!')

When the corrected code is executed, it will display the text 'Hello world!' in the console.

**Exercise 6:** Where in the computer is a variable such as “x” stored after the following Python line finishes?

x = 123

a) Central processing unit  
**b) Main Memory**  
c) Secondary Memory  
d) Input Devices  
e) Output Devices

**Exercise 7:** What will the following program print out:

x = 43

x = x - 1

print(x)

a) 43  
**b) 42**  
c) x - 1  
d) Error because x = x - 1 is not possible mathematically

**Exercise 8:** Explain each of the following using an example of a human capability: (1) Central processing unit, (2) Main Memory, (3) Secondary Memory, (4) Input Device, and (5) Output Device. For example, “What is the human equivalent to a Central Processing Unit”?

1 - **Central Processing Unit**: human equivalent to the human brain.

2 - **Main Memory (RAM**): human equivalent to your short term memory.

3 - **Secondary Memory**: human equivalent to your long term memory.

4 - **Input Device**: human equivalent to our senses allowing us to provide information to the computer. Examples - a keyboard is like our hands typing, a mouse is like our eyes and hand movements combined, and microphone is like our ears. They input data into the system.

5 - **Output Device**: human equivalent is our ability to communicate (express) or display the results of the computer's processing. This could include a monitor for showing visuals, speakers for producing sound, or a printer for producing physical documents.