***Starting Out with Python, 4th Edition, Global Edition***

**Answers to Review Questions**

**Chapter 1**

**Multiple Choice**

1. b

2. a

3. d

4. b

5. c

6. a

7. c

8. b

9. a

10. a

11. d

12. b

13. c

14. b

15. c

16. a

17. b

18. d

19. b

20. b

21 c

22. a

23. d

24. a

25. b

**True or False**

1. False

2. True

3. True

4. False

5. True

6. False

7. True

8. False

9. False

10. False

**Short Answer**

1. A computer’s main memory (random access memory) temporarily stores programs and data that are currently in use, while the computer’s secondary storage retains programs and data in an ongoing manner, for long periods of time.

2. A bit that is turned on represents 1, and a bit that is turned off represents 0.

3. 128 different character codes. The Unicode character set addresses this limitation, as it is able to represent many more characters.

4. A statement

5. Mnemonics

6. A compiler is a program that translates a high-level language program into a separate machine language program. The machine language program can then be executed any time it is needed. An interpreter is a program that both translates and executes the instructions in a high-level language program. As the interpreter reads each individual instruction in the program, it converts it to a machine language instruction and then immediately executes it. Because interpreters combine translation and execution, they typically do not create separate machine language programs.

7. Operating system

**Exercises**

1. *No solution -- This is a hands-on exercise to help you learn how to work with the*

*Python interpreter in interactive mode.*

2. *No solution -- This is a hands-on exercise to help you learn how to work with the*

*IDLE programming environment.*

3. **Decimal Binary**

14 1110

87 01010111

128 10000000

170 10101010

4. **Binary Decimal**

101 5

1111 15

110010 50

5. The first printable character (a space) has a code of 32, the “A” character has a code of 65, and the “a” character has a code of 97.

6.

• Guido van Rossum is the creator of the Python programming language, and his title of “Benevolent Dictator for Life” (BFDL) means that despite Python being a community-developed project, he has final say in any issues that the community cannot reach an agreement on.

• A collection of aphorisms that summarise the core guiding principles and design goals of Python. One can print them in IDLE by typing “import this”.

• The first version of Python 3 (version 3.0) was released in 2008, and the final version of Python 2 (version 2.7) was released in 2010. ]