Chapter 2 Assignment

SELF-REVIEW EXERCISES

2.1 ***Fill in the blanks in each of the following*:**

a) The _____ statement instructs the computer to display information on the screen.

b) A _____ is a Python data type that contains a sequence of characters.

c) _____ are simply names that reference objects.

d) The _____ is the modulus operator.

e) _____ are used to document a program and improve its readability.

f) Each **if** structure consists of the word _____, the _____ to be tested, a _____ and a _____ .

g) The _____ function converts non-integer values to integer values.

h) A Python statement can be spread over multiple lines using the _____ .

i) Arithmetic expressions enclosed in _____ are evaluated first.

j) An object's _____ describes the information stored in the object.

2.2 ***State whether each of the following is true or false. If false, explain why.***

a) The Python function **get_input** requests input from the user.

b) A valid Python arithmetic expression with no parentheses is evaluated left to right.

c) The following are invalid variable names: **3g**, **87** and **2h**.

d) The operator **!=** is an example of a relational operator.

e) A variable name identifies the kind of information stored in the object.

f) In Python, the programmer must declare the object type before using the object in the program.

g) If parentheses are nested, the expression in the innermost pair is evaluated first.

h) Python treats the variable names, **a1** and **A1**, as the same variable.

i) The backslash character is called an escape sequence.

j) The relational operators all have the same level of precedence and evaluate left to right.

EXERCISES

2.3 State the order of evaluation of the operators in each of the following Python statements and show the value of **x** after each statement is performed.

a) x = 7 + 3 * 6 / 2 - 1

b) x = 2 % 2 + 2 * 2 - 2 / 2

c) x = (3 * 9 * (3 + (9 * 3 / (3))))

2.4 Write a program that requests the user to enter two numbers and prints the sum, product, difference and quotient of the two numbers.

2.5 Write a program that reads in the radius of a circle and prints the circle's diameter, circum-ference and area. Use the constant value 3.14159 for π. Do these calculations in output statements.

2.6 Write a program that prints a box, an oval, an arrow and a diamond of asterisk.

2.7 Write a program that reads in two integers and determines and prints whether the first is a multiple of the second. (Hint: Use the modulus operator.)

2.8 Write a python program to check if the user input number is even or odd using if else.

2.9 Write a temperature-conversion program that gives the user the option of converting Fahrenheit to Celsius or Celsius to Fahrenheit. Then carry out the conversion,Using if else.

2.10 *Give a brief answer to each of the following "object think" questions:*

a) Why does this text choose to discuss structured programming in detail before proceeding with an in-depth treatment of object-oriented programming?

b) What aspects of an object need to be determined before an object-oriented program can be built?

2.11 Write a Python program to calculate the factorial of a number (a non-negative integer) using the if else statement.

2.12 Take two inputs from user base and exponent and then print the power of base using if else statement.

2.13 Take values of length and breadth of a rectangle from the user and check if it is ***square*** or not.

2.14 A school has following rules for grading system:

1. Below 30 - F

2. 30 to 40 - E

3. 40 to 50 - D

4. 50 to 60 - C

5. 60 to 80 - B

6. Above 80 - A

Ask users to enter marks and print the corresponding grade.

2.15 Write a program to check if a year is a leap year or not.

If a year is divisible by 4 then it is a leap year but if the year is a century year like 2000, 1900, 2100 then it must be divisible by 400.

2.16 Take 4 digit number from user . Write a program to print the reverse of user input digits.

INPUT : 1234 OUTPUT : 4321

INPUT : 5982 OUTPUT : 2895 .

2.16 Write a program to accept two numbers and a mathematical operators and then perform operation accordingly :

Example :

Enter first number : 8

Enter the operator : /

Enter second number : 2

Your answer is : 4