# Chapter 1

**Exercises:**

* a. T
* b. T
* c. T
* d. T
* e. F
* f. T
* g. T
* h. F
* i. F
* j. T
* k. F
* l. T
* 2) Keyboard, Mouse
* 3) Monitor, Printer
* 4) In order to store information permanently on the computer.
* 5) Monitoring system operations and providing services for the applications.
* 6) Operating system, Application
* 7) machine language is consisted of 0s and 1s which is not understandable to humans on the other hand, a high-level programming language syntax is close to common English.
* 8) A computer program that has been written in a high-level programming language
* 9) Syntax errors.
* 10) Because a high-level language is not executable by computer.
* 11) It is easier to find and fix errors in a high-level program and also it is easier to write programs in a high-level language since it is closer to English language.
* 12) Reduces the time and effort needed later in the application development lifecycle to find and fix errors or add features and capabilities to the program.

13)

1. Get testScore and weightTestScore

2. Calculate weightedSum using this formula

weightedSum = weightedSum + testScore \* weightTestScore

3. Repeat steps 1 and 2, three more times

4. Calculate weightedAverage using this formula:

weightedAverage = weightedSum / 4

14)

1. Get radius and price

2. Calculate pizza area using this formula

area = pi \* r \* r

3. Calculate the price of the pizza per square inch using this formula

PricePerSquareInch = price / area

15)

1. Get the price, markupRate and discountRate

2. Assign 0.8 as the value of markupRate

3. Calculate markupPrice using this formula

markupPrice = price \* (1 + markupRate)

4. Assign 0.1 as the value of discountRate

5. Calculate discountPrice using this formula

discountPrice = markupPrice \* (1 - discountRate)

The information we need in order to find the selling price are:

Original price, markup rate and discount rate

16)

1. Get a, b, c

2. Calculate s using this formula

s = (1/2) \* (a + b + c)

3. Calculate area using this formula

area = sqrt(s \* (s – a) \* (s – b) \* (s – c))

We need the lengths of the sides of the triangle (a, b, c) to calculate the area.

17)

1. Get noOfPages

2. Calculate the chargePerPage using this formula

If (noOfPages < 11) then

directCharge = 0.2 \* noOfPages

Else

directCharge = 0.2 \* noOfPages + 0.1 \* (noOfPages – 10)

3. Calculate totalCost using this formula

totalCost = serviceCharges + directCharge