1. False
2. True
3. False
4. True
5. False
6. True
7. True
8. False
9. True
10. false

**Multiple choice answers**

1. C) fee setting
2. B) F=5/9(C)
3. D) specification
4. B) spAm
5. B) statement
6. B) expressions
7. B) program
8. D) a counted loop
9. B) variable-as-box
10. D) input

**Discussion questions**

**Question one**

1. problem analysis: understanding and defining the problem to be solved
2. specification: detailing exactly what the program needs to do
3. design: planning how the program will solve the problem
4. implementation: writing the actual code in programing language
5. testing/debugging: finding and fixing errors in the program
6. maintenance: updating and improving the program over time

**question 2**

* identifier

main(function name)

x (variable)

I (loop varieble)

* Expression to be underlined

“this function illustrate a chaotic function”

Float(input(“

Float(input(“enter a number between 0 and 1:”))

Range(10)

3.9\*x(1-x)

X (when used in the statement)

* They type of statement

Print(x)-output statement

x=3.9\*x\*(1-x) – assignment statement

X= float(input( )) input statement

For I in range (10): loop statement

Main (): function call statement

Def main ():-function definition

**question 3**

1. Relationship between loops:

A definite loop executes a known number of times

A for loop is a type of definite loop that iterates through a sequence

A counted loop is a specific type of for loop that uses range() to repeat a specific number of times

**Question 4**

1. 0

1

2

3

4

1. 31415
2. Hello

Hello

Hello

Hello

1. 0 1

1 2

2 4

3 8

4 16

Question 5

Writing algorithms in pseudocode first is good because it helps focus on problem-solving logic without syntax details.

**Question 6**

The sep parameter in python’s print function specifies the separator between multiple items being printed. While end=”“ determines what comes at the end of the print statement, sep=”” determines what character(s) appear between item within the same print statement. By default, sep=” “(a space).

**Question 7**

The output will be

Start

end