This test consists of multiple-choice questions. With some questions, the correct answer contains several alternatives (as indicated). Write down your answer(s) and compare with the given solutions.
QUESTIONS SELF-TEST INTRODUCTION TO PROGRAMMING

1. Which of the following are object oriented languages? [3 answers]
   [ ] [a] Java
   [ ] [b] Cobol
   [ ] [c] C#
   [ ] [d] C++
   [ ] [e] C

2. In programming, a series of logically ordered steps that lead to a required result is called
   O (a) a compiler
   O (b) a program
   O (c) a data structure
   O (d) an algorithm

3. What kind of languages are Cobol, Java, C# and Basic?
   O (a) 1GL
   O (b) 2GL
   O (c) 3GL
   O (d) 4GL

4. Which is a typical language for programming inside Web pages?
   O (a) JavaScript
   O (b) HTML
   O (c) Cobol
   O (d) XML

5. Which of the following converts source code into machine code at each runtime?
   O (a) linker
   O (b) compiler
   O (c) interpreter
   O (d) object encoder
6. Which of the following commonly happens to variables (in most languages)? [3 answers]

- [a] declaration
- [b] assignment
- [c] expansion
- [d] initialization
- [e] derivation

7. Assuming that + and * are arithmetic operators (addition and multiplication), to what does the expression \(2 + 4 \times 5 + 1\) evaluate?

- (a) 36
- (b) 31
- (c) 26
- (d) 23

8. Assuming that = and / are the assignment and division operators, what will be the outcome of the following code in most programming languages:

\[
x = 3 \\
y = 7 \\
z = x / (y-7)
\]

- (a) runtime error
- (b) syntax error
- (c) logic error
- (d) compiler error

9. Today is Tuesday. It is raining. Which of the following is True? [2 answers]

- [a] Raining OR Tuesday
- [b] Raining XOR Tuesday
- [c] Raining AND Tuesday
- [d] NOT (Raining OR Tuesday)
10. Which is a typical kind of variable for keeping an ordered set of values in memory, that can be referenced as e.g. A[3], A[n+1] etc.?
   - (a) file
   - (b) array
   - (c) string
   - (d) container

11. AND, OR and NOT are logical operators. What data type is expected for their operands?
   - (a) integer
   - (b) boolean
   - (c) decimal
   - (d) character

12. In many programming languages, ‘otherwise’ and ‘else’ are part of which building block?
   - (a) loop
   - (b) counter
   - (c) selection
   - (d) list structure

13. What building block does the following Nassi-Shneiderman diagram represent?

   ```
   while x < 10
   print x
   x = x + 1
   ```
   - (a) sequence
   - (b) selection
   - (c) iteration
   - (d) function
14. Structurally the following is a typical example of?

- (a) tracing
- (b) recursion
- (c) hatching
- (d) nesting

15. Which is a working solution for producing the following output: 1 4 9 16 25 ?

- (a) A
- (b) B
- (c) C
- (d) D
16. Assume a random population. You want to send a birthday card to all women that have a birthday next week. Which is a correct and probably most efficient algorithm?

O (a) A
O (b) B
O (c) C
O (d) D

17. The following is a typical pattern for reading and processing data from a sequential file. What is hidden behind the question marks? [2 answers]

open file

??????????

read line
process line
output result

☐ [a] while not EOF
☐ [b] if count = end
☐ [c] until EOF
☐ [d] count until end

18. In most programming languages, which statement would be used in the definition of a function, to indicate the resulting value when this function is called?

O (a) result = x
O (b) reply x
O (c) send x
O (d) return x
19. ‘Tracing’, ‘stepping’ and ‘breakpoint’ are typical terms belonging to which programming development aspect?

- (a) debugging
- (b) compilation
- (c) version control
- (d) project planning

20. Which term describes the mechanism of a function calling itself?

- (a) encapsulation
- (b) inheritance
- (c) recursion
- (d) polymorphism
EVALUATION.

Here are the correct answers to all questions:

1.  a c d
2.  d
3.  c
4.  a
5.  c
6.  a b d
7.  d
8.  a
9.  a c
10. b
11. b
12. c
13. c
14. d
15. b
16. a
17. a c
18. d
19. a
20. c

Give 1 point per correctly answered question, also for questions with multiple correct answers.

If your score is more than 80%, you do not have to follow the course Introduction to programming.

When you have a score between 50% and 80%, following the course Introduction to programming can improve your knowledge.

When your score is less than 50%, we strongly suggest you follow this course Introduction to programming.