Exercise 1.

- What are the phases of building a compiler?
- List two main differences between the C++ and Java languages in terms of compilation.

Exercise 2.

- Match the concepts with their definitions.

1) **Source language** **a)** A program that builds a lexical analyzer
2) **Assembly language** **b)** A translator that executes the source program's instructions one by one
3) **Lexical generator** **c)** High-level programming languages
4) **Lexical analysis** **d)** The language in which the original program is written
5) **Interpreter** **e)** A symbolic representation of machine language
6) **C/C++, Java, PHP,…** **f)** Groups the stream of input characters into lexical units

Exercise 3.

- Match the concepts with their definitions.

1) GCC	**a)** Markup language
2) Motorola 68000	**b)** Assembly language
3) The OCaml language	**c)** Interpreter
4) Quadruples	**d)** Compiler
5) HTML	**e)** Intermediate language

Exercise 4.

For the following block-structured C code, indicate the values assigned to *w*, *x*, *y*, and *z*.

```
int w, x, y, z;
int i = 4; int j = 5;
{    int j = 7;
      i = 6;
      w = i + j;
}
x = i + j;
{    int i = 8;
      y = i + j;
}
z = i + j;
```

Program (a)

```
int w, x, y, z;
int i = 3; int j = 4;
{    int i = 5;
     w = i + j;
}
x=i+j;
{    int j = 6;
     i = 7;
     y = i + j;
}
z = i + j;
```

Program (b)