# Worksheet 4 Programming language translators Answers

1. Fill in the blanks in the following:

When a program is compiled from source code, the object code can be saved on disk and executed whenever required.

An interpreter is useful for program development as parts of the program can be tested without having to recompile a lengthy program each time. However, a compiled program will generally run faster.

2. If you have written a program using a high-level language for one type of computer, can you run it on a different type of computer? Explain.

Many high-level languages are portable because the source code can be compiled on different platforms (machine architectures). You would have to recompile the program into the appropriate object code using a specific compiler, or bytecode interpreter.

3. Name a programming language that uses bytecode. What is the advantage for the programmer of having code compiled into bytecode?

The bytecode is portable, so that any computer capable of running for example Java, will have a “Java Virtual Machine” (a program) which will compile it into object code.

Bytecode can also act as an extra security layer between your computer and an untrusted program as you are running the bytecode compiler/interpreter rather than executing the program itself.