What is a compile time error? 1

It means something went wrong according to the rules of the language and the compiler finds it. In Java the compiler refuses to translate the program into Java virtual machine.

- compile-time error is a violation of the programing language rules that is detected by the compiler

What is a run time error? 2

When the program is

- syntactically correct
- does somethings
- doesn't do what it's supposed to
- produces the wrong output
- generates exceptions

A program that takes an action the programer didn't expect.

How should an algorithm for solving problems be? 3

- A sequence of steps
- Unambiguous
- executable
- terminating

Steps to describing an algorithm with pseudocode 4

1. Determine the inputs and the outputs
2. Break down the problem in to smaller tasks
3. Describe each subtask in pseudo code
4. Test your pseudocode

What is a computer program? 5

A sequence of instructions and decisions

What is programming? 6

The act of designing and implementing computer programs

What is a CPU? 7

Central Processing Unit: It performs program control and data processing

Describe the process of translating machine languages to machine code: 8

- **Java** was originally designed to program consumer devises, but it was first successfully used to write Internet applets.
- safe portable
- programs are distributed as instructions for a virtual machine, making them platform independent.
- large library

Describe the building blocks of a simple program 9

- **Classes** are the fundamental building blocks of a Java program.
- **Main** every Java application contains a main method. When the application starts the instructions in the main methods are executed.
- **Declaration methods:** Each class contains declaration methods, and each method contains a sequence of instructions.
- **Method:** called by specifying it's name and arguments.
- **String** a sequence of characters enclosed in quotation marks.

1: Review ex

Explain the difference between using a computer program and programming? 10

In programming you are taking an algorithm or a set of steps and translating it in to a language that a computer can compile.

When using a computer you are only feeding in the input and receiving the already programmed expected output.

Is like asking for answer vs solving the problem.

what is the difference between an algorith and a computer program? 11

A **computer program** is a sequence of instructions that comply the rules of an specific programming language.

Algorithms are general, they have to be translated into a specific programming language

Which part of the computer can store the program code and which parts of the computer can store user data?

Program code is stored in secondary storage or hard disk, because it's slower and less expensive than primary

User data is stored in primary storage or memory

What does a CPU do? 13

the central processing unit performs program control, and data processing.

It locates and executes programs, performs arithmetic and fetches data.

Which parts of the computer take user input? 14

microphone mouse and keyboard

Which parts of the computer give the user info? 15

Peripheral devices (output) display screen, speakers, printers

Singleton Device vs Programmable computer 16

A singleton functions device has one only purpose, like a lamp, and a programmable computer can do many things, like an iPad.

Benefits of using Java vs machine code 17

The benefits are:

- **Portability:** Java inserts it's virtual machine between the application and the computers environment (each computer environment can be unique) then it's compiled in to byte code and the byte code is then interpreted by the computer in the same way it's environment is.
- **Security:** Because it does;t have pointer arithmetic
- **Platform independence**

Trade-offs;

Performance