1. (30 pts) Short answer. Be clear and not vague!
   a. In Scratch programming what is a sprite?
   b. In Scratch programming what is a costume?
   c. What is an execution thread?

2. (40 pts) For the following Scratch code tell me what the program behavior is when I press the green flag. Be complete!!! Being vague will not help you. Write next to the code.

   ![Scratch code 1](image1)

   ![Scratch code 2](image2)

3. (40 pts) For the following Scratch code based on what we have seen before tell me what the program behavior is of each script. Be complete. What program was this?

   ![Scratch code 3](image3)
4. (40 pts) Below is from the code for the two dinosaurs playing a game.

   a. Is secret a global or a local?

   b. Is guess a global or a local?

   c. What exactly happens when the “say” command is executed. Think back to what you see or hear.

   d. In that program which sprites listen to the messages that are broadcast?
5. (80 pts) For the following definitions label them with the best term from the list below.

___ The base 8 number system. It is often used to express binary numbers in shorter strings.

___ A standard for communication between pieces of hardware or between pieces of software that allows information and commands to be exchanged.

___ The main path for bits traveling in parallel in and out of a CPU. It is often many bits wide.

___ An unmanned flying vehicle, for example a UAV. May be remote controlled or autonomous.

___ This refers to information being stored not on one’s own computer but on a distant mass storage device accessible via the internet.

___ A physical device used by a computer that is not part of the physical box containing CPU and memory. A printer is an example.

___ It is a 7bit code for characters. For example: the letter ‘x’ is represented as 1111000.

___ A billion

___ A language that is NOT similar to the one that runs on the hardware and deals more complex data types and control structures than the hardware.

___ Controlled by computer programs and not people

___ A software tool to help you write software. Examples include the open source: Eclipse and NetBeans and Microsoft Visual Studio.

___ Using algorithms to infer complex results for masses of data such as sensor data or the world’s web pages. Generally to be data mining most of the data available is not relevant but large enough amounts are that it is nontrivial to draw conclusions.
Fairly splitting up time between running processes.

Refers to the volume of information that can be transmitted or processed. It is usually measured in bits or bytes per time unit like “bits per second”.

Generally refers to fast memory on chips that are not in the CPU. It often stores data that is anticipated to be used next or recently used.

The program that runs on the hardware creating information objects such as files and processes and assures the fair and secure allocation of processor time for processes, access to files, access to devices, and other resources.

The subfield of computer science that involves the creation of programs that attempt to do what was formerly believed to be able to be done by humans.

The field of Computer Science that deals with algorithms, techniques and hardware that enables simultaneous execution of many streams of instructions.

A trillion

The main circuit board generally connecting most major components of a computer such as CPU, memory, I/O devices.

A million

A variable that is accessible from anywhere in the code.

A collection of variables and functions brought together in a programming system to represent a physical thing.

A set of instructions for accomplishing a task that when executed will terminate.

The set of loyal customers a company or software supplier supports.

Code that changes the order of execution.

Using algorithms to infer complex results for masses of data such as sensor data or the world’s web pages.

The number of cycles or oscillations per second. Computer clock rates are measured in this.

The internal “drummer” or heartbeat that keeps the CPU activities across the chip and across the motherboard in sync.

A string of 0’s and 1’s that represents information such as a number or characters.

A single letter or symbol that is represented by a small set of bytes in the computer. As in ASCII or Unicode.

It is about 1 foot per billionth of a second.

a billionth or a very small thing.

Owned by an individual or company and whose use generally requires payment.

The processor for a computer.

the rules to decide only if a statement is allowed in the language but not what the meaning of the statement is.

The instructions executed by a CPU. The bit level instructions of a computer.

A number that allows a decimal point for example: 3.14159265358979

The meaning of statements in a language.

A program that spends most of its time running on the CPU with a disproportionately small amount of time waiting for data from memory.
1. ASCII
2. Algorithm
3. Artificial Intelligence
4. Atomic Clock
5. Autonomous
6. Bandwidth
7. Big Data
8. Binary
9. Bus
10. Byte
11. CPU
12. CPU intensive
13. CUDA
14. Character
15. Clock
16. Cloud
17. Control structure
18. Crypto-memory
19. Customer Base
20. Data Mining
21. Disk
22. Drone
23. Floating Point Number
24. Giga-
25. Global Variable
26. Hertz
27. Hexadecimal
28. High Level Language
29. IDE
30. Integer Point Number
31. Kilo-
32. Local Variable
33. Machine Instructions
34. Mega-
35. Micro-
36. Motherboard
37. Nano-
38. Object
39. Octal
40. Omicron Persei 8
41. On Chip
42. Operating System
43. Pairs Programming
44. Parallel Computing
45. Peripheral
46. Proprietary
47. Protocol
48. Quantum Computing
49. RAM
50. Semantics
51. A Small Bunny
52. Software
53. Solid state disk
54. Speed of Light
55. Syntax
56. System Variable
57. Systematics
58. Tera-
59. Time sharing