Name: Class:

Task 1

Below are **six** cyber attack scenarios.

(a) For each scenario, write the most likely motivation for the cyber attack.

(b) In **each** scenario, underline the reason for your choice of motivation.

The first scenario has been done for you.

|  |  |
| --- | --- |
| Scenario | Motivation |
| 1 | Gigaclean is a large international vacuum cleaner company which has many patents on their technology worth millions of pounds. An employee working for a competitor manages to gain access to Gigaclean’s file server and obtains important documents showing future vacuum designs. | Industrial espionage |
| 2 | A teenager, Noah, has an argument with Alfie who attends the same school. Noah knows one of Alfie’s friends, who knows the password to his Facebook account. He uses the password to post inappropriate messages to his friends as if he is Alfie. |  |
| 3 | A hacker manages to gain access to an ecommerce website’s server. They obtain 3000 names and credit card details. Before the website can fix the problem, the hacker manages to sell the card details for £10,000. |  |
| 4 | Jaxon has been programming since age 10. Already, at age 15, he is able to program in three languages and has his own website. He mainly uses Linux and the command line. He wants to take his skills to the next level and decides to break into his parent’s home computer. He doesn’t damage or steal anything whilst there. |  |
| 5 | A programmer creates a virus which infects thousands of computers. Once infected, the virus encrypts everything on the computer’s hard disk. The virus then shows the user that they have a choice: they can either lose everything on their computer or pay a ransom of 0.1 bitcoin to decrypt the data (worth around £1000 at the time of the attack). |  |
| 6 | Kevin has started working with the hacking group Anonymous. He starts a denial of service attack on a major online organisation which the group disagree with. The media organisation distributes huge quantities of video data and their servers cannot cope with the attack. The server goes offline resulting in millions of pounds of losses for the company. |  |

Possible motivations:

* Fun/challenge / Disruption
* Financial gain / Personal attack
* Industrial espionage / Information/data theft

Task 2

Either

Research a new hacking story that involves a cyber attack.

(a) What are **five** key points of the story?

1.

2.

3.

4.

5.

(b) What was the motive for the cyber attack?

Or

(a) Create a story of a cyber attack similar to that given in Task 1.

(b) Ask a friend to read your story and say what the motive was for the attack.

Task 3

For each of the scenarios given below, tick which hacking techniques have been used. Underline the part(s) in the scenario that support(s) your choice(s). The first scenario has
been completed as an example.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Scenario** | **Virus** | **Worm** | **Trojan** | **Ransomware** | **Spyware** | **Rootkit** | **Botnet** | **Denial of Service** |
| **1** | Tyler goes to a website that says that it will supply cracked software that doesn’t need a licence. After installing the software, the user is pleased as it works as expected. They notice later that many adverts display on their computer. |  |  | 🗸 |  | 🗸 |  |  |  |
| **2** | Leila clicked on a file in an email attachment. Today when she turned on her computer, it said that all her files are now encrypted. She has been given 24 hours to pay one bitcoin to unencrypt the files. |  |  |  |  |  |  |  |  |
| **3** | ILOVEYOU infected 10% of the worlds computers in 2000. On clicking an email attachment, it sent itself to all other contacts in the email address book. It is estimated that $10 billion of damage was done by ILOVEYOU. |  |  |  |  |  |  |  |  |
| **4** | In 2016 a major IT service provider, Dyn, was disrupted by a cyber attack. This caused the websites AirBnB, Netflix, PayPal, Visa and Amazon to be disrupted. The attack started by gaining control over Internet of Things (IoT) devices such as cameras, printers, TVs and baby monitors. These devices were all then told to target Dyn’s servers with unnecessary requests.  |  |  |  |  |  |  |  |  |
| **5** | CopyCat is malware that affects the Android operating system. It infected 14 million devices in 2016. The software spreads by popular apps that have been rebuilt to contain malicious code. These are delivered via 3rd party websites. Once installed, the malware managed to gain full root access to the device. |  |  |  |  |  |  |  |  |

Task 4

(a) Choose **one** of the following methods of attack that you are interested in and circle it:

 Virus, worm, trojan, ransomware, spyware, rootkit, botnet, denial of service

(b) For your chosen method of attack, explain how the attack works.

(c) Research **one** example of the attack being used in the real world. Make notes on the following:

* Was the attack used together with any other methods? If so, what were they?
* How much did the attack cost?
* Was the hacker found? If so, did they have any consequences such as prison?
* What are the key details of the attack?

 Note: You may find that you have difficulty accessing websites related to hacking. If this is the case, you should make use of news sites such as: [www.zdnet.com](http://www.zdnet.com), [www.theregister.co.uk](http://www.theregister.co.uk), [www.bbc.co.uk](http://www.bbc.co.uk), [www.nytimes.com](http://www.nytimes.com).

 (d) Explain to a friend or the class what you have found out from your research.