



F11.1 Why cyber security

Cyber security · GCSE · OCR J277 1.4.1, AQA 8525 3.6.1, Edexcel 1CP2

5.3.1 · about 15 min

Name _____

Class _____

Date _____

What this lesson is about

Confidentiality, integrity and availability, who attacks and why, and ranking risk.

- What are we protecting?
- Who attacks systems, and why?
- The weakest link is usually people
- A quick risk model

Questions

5 marks in all

1. What does confidentiality mean in security? [1 mark]
☐ A Only the right people can read the data
☐ B The data is always available
☐ C The data is never changed
☐ D The data is backed up
2. Flooding a website until it crashes attacks which goal? [1 mark]
☐ A Availability
☐ B Confidentiality
☐ C Integrity
☐ D Authenticity
3. What is often the weakest link in security? [1 mark]
☐ A People
☐ B Firewalls
☐ C Encryption
☐ D Cables
4. Why might an insider be a threat? [1 mark]
☐ A They already have access they can misuse
☐ B They cannot log in
☐ C They have no motive
☐ D They work from home
5. A risk has likelihood 4 and impact 5. What is its risk score, if score is likelihood times impact? [1 mark]

The task: rank the risks

Give each risk in `risks` a **score** of likelihood times impact. Print each as `<name>: <score>`, sorted from the highest score to the lowest. Then print `biggest risk: <name>` for the one at the top.

```
# the two lines every program starts with: the commands, then the robot
from bugbot import *
connect()

# name, likelihood (1 to 5), impact (1 to 5)
risks = [("weak passwords", 4, 5), ("stolen laptop", 2, 4), ("phishing email", 5, 4),
("power cut", 3, 2), ("out-of-date software", 4, 3)]
```

Plan your program here, then type it in and press Run.



Do it on the robot

www.bugbotlab.com/learn/f11-1-why-cyber-security/

The simulator checks it and tells you when it passes. Nothing to install, no account.

Challenges

1. Add a risk of your own and see where it ranks.
2. For each risk, say which of confidentiality, integrity and availability it threatens.
3. Which two risks would you spend money on first, and why?