

Choose a total of **20** points per half term

YEAR 9 COMPUTING HOMEWORK TASKS – SPRING TERM 1

Reinforce:

- Go online to <https://student.craigndave.org/> Find the video entitled, **OCR GCSE SLR2.2 The common arithmetic operators**

Make a **one-page revision sheet** to help Year 9 students understand the **different arithmetic operators used in programming**. Try and give examples, written in Python syntax

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Wider Read:

- Find out more about **Graphical** and **Text** based programming languages
- Explain the **main differences** between the two
- Name **2 examples** of each, e.g. Python is a text based programming language

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Challenge:

Complete an **hour of code** from <https://code.org/learn>. Screen snip your final screen, game code or certificate as **proof**

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Find out the meaning of these **Key Terms**:

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Flowchart
Pseudocode
Decomposition
Abstraction
Variable

Challenge:

- Draw a **flowchart** to represent the throwing of a dice with the **aim** of scoring a 6.
- Use **programming** flowchart symbols

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Reinforce:

- Go online to <https://student.craigndave.org/> Find the video entitled, **OCR GCSE SLR2.2 The use of the three basic programming constructs**

Make a **one-page revision sheet** to help Year 9 students understand the 3 main building blocks used in programming

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Quiz:

- What is a **computer bug**?
- Where did the term '**computer bug**' first originate from?
- How does a bug **differ** from a computer **virus**?

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Quiz:

- What are **Triple Quotes** (in Python)? Give an **example** of how they might be used

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External storage options: Complete the table

Storage Option	Image	Advantages	Disadvantages
USB/Memory Stick			
CDs and DVDs			
External Hard Drive			
Online or Cloud Based			

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Quiz:

- What is the difference between a **local** backup and a **remote** backup?
- Why is it essential that a large company back up their data **daily**?

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Challenge:

- Install** the latest version of **Python** on your **home PC** (ask for permission first!)

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Challenge:

- Find out more about **ASCII Art**
- Convert** an image into colour or monochrome ASCII Art at www.ascii-art-generator.org/



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All **tasks** should be **evidenced** by screen snipping, or uploading to your OneNote exercise book (into the Homework section). If you need to submit your homework on paper, you will need to collect a homework exercise book from your teacher



Quick Quiz: Hacking

- What is meant by the term, **cracking**?
- What is a **brute force** attack?
- What is a **dictionary** attack?
- Name two types of **password protection**
- Give an **example** of a **very strong password**.
Test it out at:
<https://howsecureismypassword.net/>

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Complete the table and then write some examples to **compare expressions** to show a **True or False value**, e.g.

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a=3, b=7	a==b	FALSE
	Boolean Equivalent	In Python
Equal to	=	
Does not equal	<>	
AND	AND	and
OR	OR	or
NOT	NO	not