Knowledge Organiser: Python Programming De La Salle Algorithms: Algorithms are ways of breaking down (abstraction) **Using Python:** Python 3.8 Python and explaining solutions to problems. These can take many forms: IDLE (Python 3.8 64-bit) Commands Python is a text based Python 3.8 (64-bit) 2 - Simple sentences to tell people what to do programming language Python 3.8 Manuals (64-bit) piece of software. - Simplified programming language called Pseudo code Python 3.8 Module Docs (64-bit) Scratch is a block Output = Outputs 2 - Flow charts to explain the steps based piece of text and numbers to software. display window. This is usually done by What is a FLOWCHART? O Type here to search using the command Two windows: There word 'print' are two windows you will use within Python. A flowchart is a way of visually displaying Interactive window: This is where your program Start a set of instructions Input = allows the is displayed (or an algorithm) for The Edit Shell Debug Option: Window Help Python 3.6.3 (V3.6.3;2c5fed9, Oct 3 2017, 17:26:49)) [MSC v.1300 32 bit (Intel)] on win32 Type "copyright", "credits" or "license()" for more information. user to input an Find a safe place to cross and the user any particular task. can interact answer Stop at the side of the road with the program you It will display how TF = Tt allows the Yes have created. the data flows and Can you see Wait until it is program to take a any decisions which any cars? safe to cross different route. are made to control depending on if it Script window: This is where you create your No an event. This could meets the criteria program. Once you have created your program Yes be anything from a Can you hear and you are File Edit Format Run Options Window any cars? set of traffic lights, ready to test it ELSE = If the a central heating No you can go to program does not system on a timer or 'run' or press Cross the road safely meet the criteria's an electric kettle! 'F5' to run the stated, it will then Stop program do what ever is in Best practice: It is advised you have both the next indent. windows up side by side to test your program This flowchart shows a safe way of crossing a busy road. throughout the creation process.

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Home learning Task Design your own flowchart: Think of your own sequence of instructions for a task. For example, it could be something done in the kitchen, part of playing a game or how to use an electronic device. Make notes in the box of the order of the instructions and then use the conventional flowchart symbols to create your own flowchart. Notes: Flowchart: Image: state of the state of the instruction of the inst	 Key Words: Listen carefully throughout the lesson for the following keywords. * Do you know what they mean? * Can you use them within an answer? * Can you spell them correctly? Algorithm Abstraction Decomposition Pseudo Code Flowchart Instruction Output Input Variable Selection Decision Home learning task: You may want to write a definition and provide an example for each of the keywords. You could bring them into lesson to help you and your peers complete the tasks set. Useful links and videos: Below you will find a collection of links and videos to support you with your home learning and revision: https://www.bbc.co.uk/bitesize/guides/z2p9kqt/revision/1 - This will help support your understanding of algorithms and the selection process https://www.bbc.co.uk/bitesize/guides/z2p9kqt/revision/2 - This will help support your understanding of using IF statements. https://www.bbc.co.uk/bitesize/guides/z2p9kqt/revision/3 - This will help support your understanding of using IF ELSE statements. What Is A Flowchart? - YouTube - This video will explain what a flowchart is and how they are used.