**Reading (VIPERS FORM)**

Use this form to record key ideas from reading to prepare for the lessons.  make sure you upload the completed form in TEAMS (Reading section)

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| Topic you prepared: | Links used: |
| Boolean Algebra |  |

Terms: Write any new technical term and their meaning, add more rows if needed.

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| **Terms** | **Meaning** |
| Conjugation | AND Gate |
| Disjunction | OR Gate |
| Negation | NOT Gate |
| Exclusive OR | XOR Gate |

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| **What can we understand from the topic?** |
| There are different gates which represent different Boolean algebraic symbol/operations |

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| **How this topic linked to other previous topics ? What conclusions can we draw from this topic?** |
| Using binary numbers we can use Boolean operations to create shorter algorithms using less variables therefore using less memory for the computer.  Furthermore, we can gather other pieces of information such as the difference between 2 numbers with out having to convert from denary to binary. |

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| **What are the strengths / applications of this topic? (e.g. accuracy, steps of calculations, time or space complexity, used when …., hardware and software needs, ethical or legal issues, ….etc.)** |
| A strength is that less memory from the computer can be used which can be used to create more features apart of the program |

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| **What are the limitations / drawbacks of this this topic (e.g. problems, limited accuracy, too many steps, too complex, cannot be used when, hardware requirements, ethical and legal issues, ….. etc.)** |
| A limitation is that it only uses binary numbers so using without is difficulty since conversion would be needed so humans doing this method is considerably slower than a computer. |

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| **Write a summary of the topic in 50 words** |
| There are different operations such as AND, OR, XOR, NOT, NAND which can be used in binary numbers making use of denary operations in binary.  AND gate inputs only 2 trues to output a true and the rest are false.  OR gate produces a true when 1 or both the inputs are true.  NOT gate inverts the status of its input.  XOR gate produces a true if the inputs are different.  Using this we can swap variables using a swap algorithm: x = x XOR y  Y = x XOR y  X = x XOR y |