

Year 12 Computer Science

3.0 Programming project
Analysis of the problem

3.0 Programming project
Analysis of the problem

1.3.4 Web technologies
HTML, CSS & JavaScript -
PageRank algorithm - Server
and client side processing.

**1.5 Legal, moral, cultural &
ethical issues**
Computing related
legislation - Moral and
ethical Issues

1.3.2 Databases
Relational database -
Normalisation - SQL - ACID

1.3 Exchanging Data
1.3.1 Compression, Encryption
& Hashing - 1.3.3 Networks

1.4.2 Data Structures
Linked-list -
Graph - stack - queue -
binary search tree - hash
table.

**1.2 Software and software
development**
Systems software & development
- applications generation -
Programming languages

1.4.3 Boolean Algebra
Boolean expressions -
Karnaugh maps - Boolean
algebra - logic diagram - D
type flip flops

**1.1 The characteristics of
contemporary processors,
input, output and storage
devices**

1.4.1 Data Types
Positive binary - sign &
magnitude - twos
complement - floating point
arithmetic - bitwise
manipulation

| Knowledge | Attributes / Character | Skills | Experiences |
|---|--|---|--|
| <ul style="list-style-type: none"> ● The characteristics of contemporary processors, input, output and storage devices ● Software and software development ● Exchanging data ● Data types, data structures and algorithms ● Legal, moral, cultural and ethical issues ● NEA Programming project | <ul style="list-style-type: none"> ● Confidence <ul style="list-style-type: none"> ○ Praise effort ○ Embrace challenging learning ○ Autonomy and decision-making ○ Oracy - Turn and Talk, Think, Pair, Share ● Organisation <ul style="list-style-type: none"> ○ Handbook ○ Folder checks ○ PLC ○ Regular use of Google classroom ● Resilience <ul style="list-style-type: none"> ○ Developing problem solving skills ● Empathy <ul style="list-style-type: none"> ○ Group work ○ Peer assessment | <ul style="list-style-type: none"> ● Computational thinking ● Problem solving ● Mathematics relevant to computer science ● Literacy <ul style="list-style-type: none"> ○ Use of key terminology in technical writing ● Creativity ● Planning ● Attention to detail ● Organisation ● Design for purpose ● Communication for various audiences ● Time management | <ul style="list-style-type: none"> ● Opportunities to develop programming skills ● Visit to Bletchley Park ● Bebras Challenge |