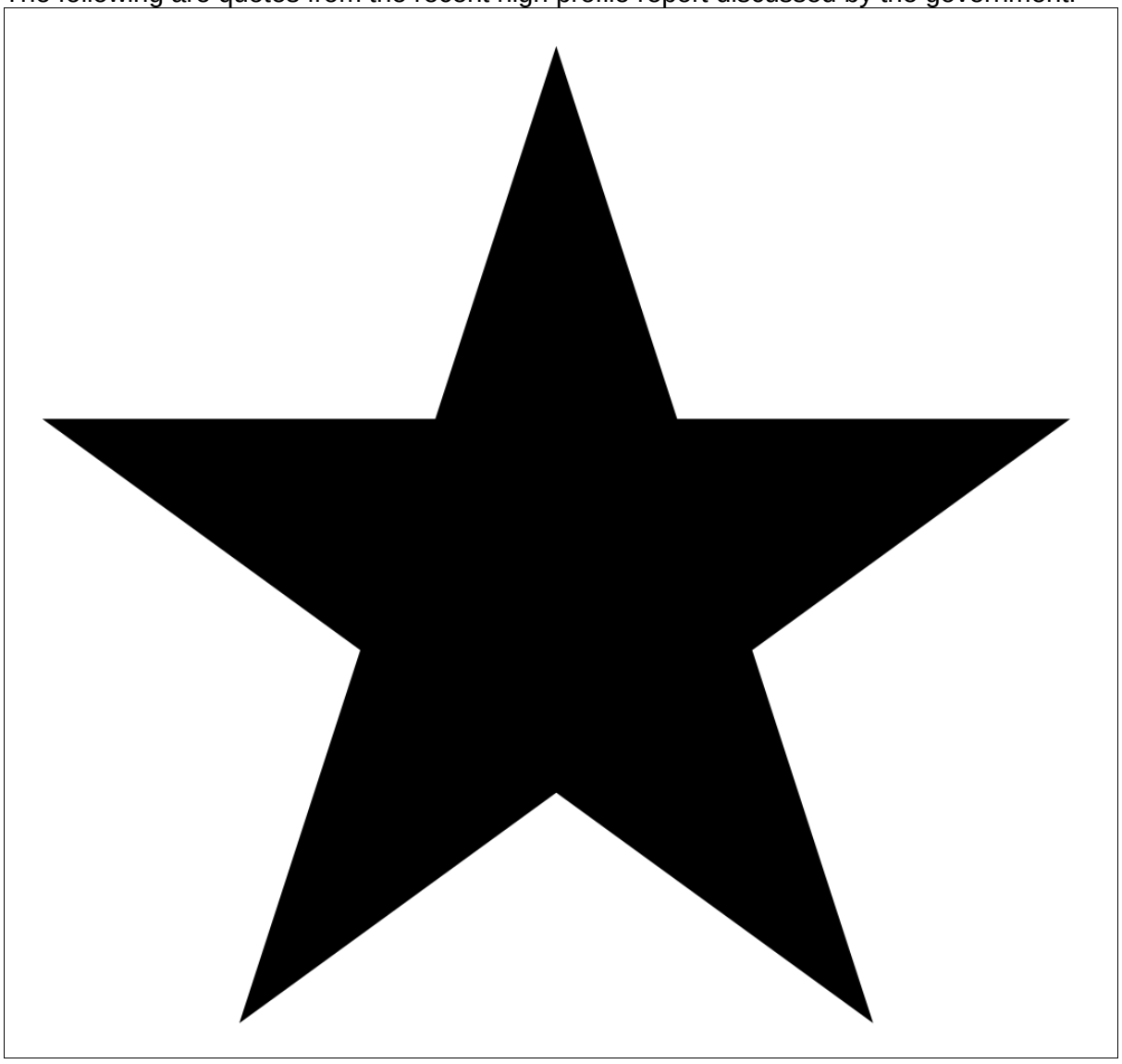
Computing Science

Our society is now based upon information and the role of computers in storing and processing this information is rapidly expanding. Therefore it is important to be aware of the effects of computers at work, in the home and in leisure time, and to be able to adapt to developments in computing.
Upon completion of either of these courses, pupils will have developed:

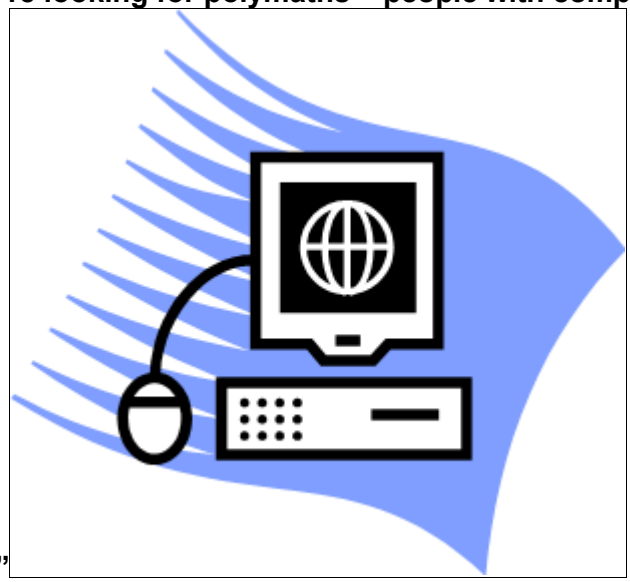
- an awareness of the use of computers;
- a knowledge of and competence in using computer systems;
- A confident and informed attitude towards using computing technology in the future.

All courses have been designed from the viewpoint that pupils will learn more about how computers work through using computers than from an abstract description. Therefore, these courses involve a considerable amount of time using the three full suites of computers available within the department.
The following are quotes from the recent high profile report discussed by the government:



“Put proper computer science in the form of coding on the curriculum”

“We’re looking for polymaths – people with computer science, maths, physics or fine arts”



“We’re not producing enough computer science graduates”
“Coding is the new Latin”

Computing Science – S3

What are the aims of this course?

Computing is vital to everyday life; it shapes the world in which we live and its future. Computer scientists play key roles in meeting the needs of society in the following fields – science, communications, entertainment, business and industry.
The aims of these courses are to allow learners to:

- Develop knowledge and understanding of key facts and ideas in computing science
- Develop computational thinking
- Analyse, design, model and evaluate a range of problems
- Communicate clearly and concisely using appropriate technology
- Understand the impact of technology in changing and influencing our society

What will I be learning about in this course?

Learners will develop an understanding of the central role of computer scientists as problem-solvers and designers, able to design, implement and operate hardware and software systems and the far-reaching impact of information technology on our environment and society.
The principal areas of study in this course are:

- Software design using a variety of programming environments
- Computer systems – the necessary hardware and software
- Games development
- Intelligent Systems
- Computer security
- Databases
- Web based and multimedia information systems

What skills will I develop?

- An awareness of the use of computers at work, in the home and for leisure activities;
- A knowledge of computing systems and a confidence in making use of them;
- A confident and informed attitude towards using computer technology in the future.
- The ability to design, implement, test and maintain your own computer programs

Learners will have developed skills in analysis and problem solving, design and modelling, developing and implementing solutions and evaluating digital solutions.

What learning and teaching approaches will I experience?

A wide variety of learning and teaching approaches will be adopted – each suited to the individual part of the course being studied. These approaches will include teacher-led lessons and demonstrations, working in pairs and groups, whole class discussions, making use of the Interactive white board, quizzes and competitions and individual research.

What are the homework requirements?

Homework is given out on an extremely regular basis and could consist of the following:

- Answering written questions to reinforce knowledge gained in the class
- Preparing programs for implementation in the class
- Producing reports to back up printed evidence of practical activities carried out in class
- Learning necessary facts and reading over notes in preparation for exams

What might this course lead to in the future?

There will be an opportunity for those who achieve success in their Broad General Education (BGE) to progress further in this subject by studying Computing Science at National 4, National 5, Higher and Advanced Higher as appropriate.