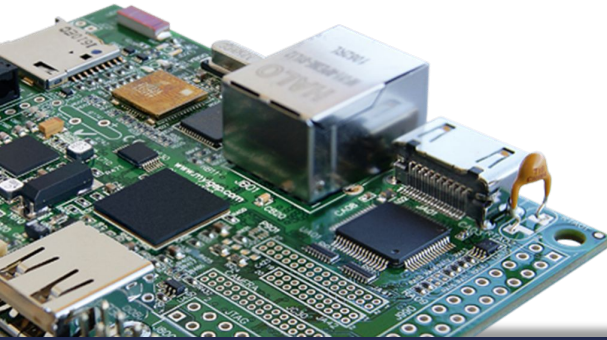




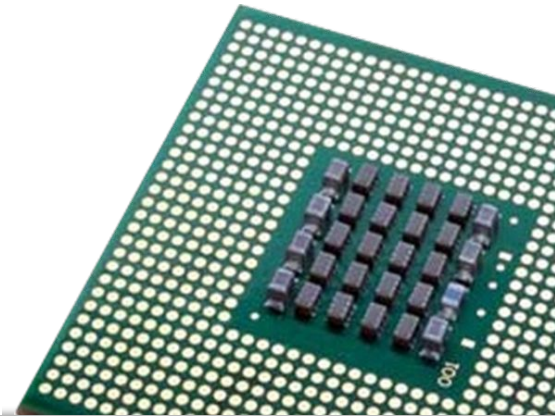
BEECHEN CLIFF

In one word, what's the biggest problem technology needs to solve?



EvilAI Cartoons.com @EvilAICartoons

*"I'm not in love with Alexa! I just prefer to upload all my troubles to the cloud rather than burden you with them."*



Aspiration

Compassion

Independence

Respect



BEECHEN CLIFF

**Terrorism**  
**Unemployment**  
**Deforestation**  
**Climate-change**  
**Access-to-education**  
**Access-to-clean-water**  
**Safety-&-Security**  
**Global-warming**  
**Cyber-threats**  
**Inequality**  
**Poverty**

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- Technology is embedded in every aspect of our lives.
- Computer Science is being used to help solve many of the world's biggest problems
- AI, self-driving cars, social media algorithms, cybersecurity



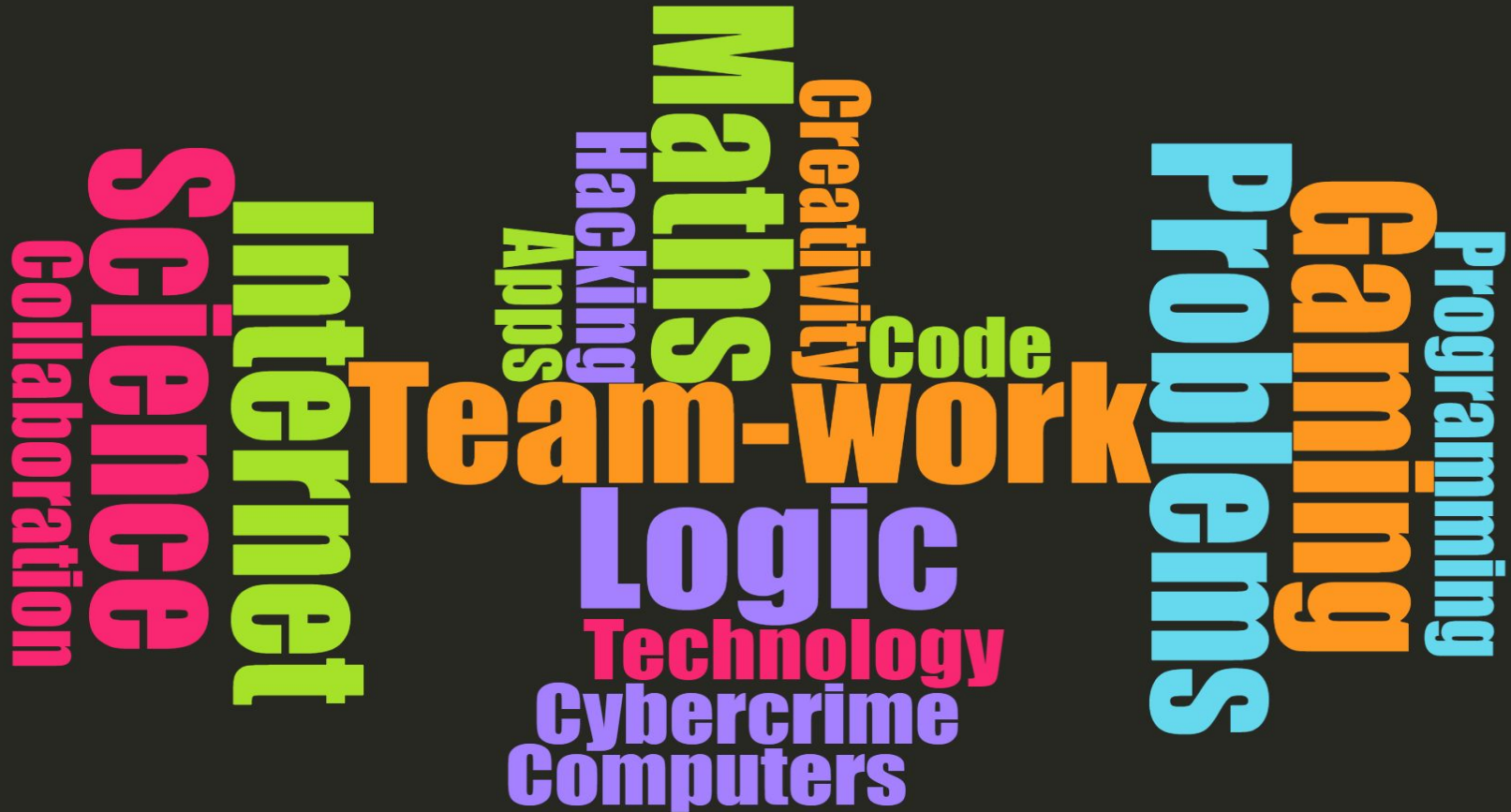


When someone says  
**“Computer Science”**  
what do you think of?





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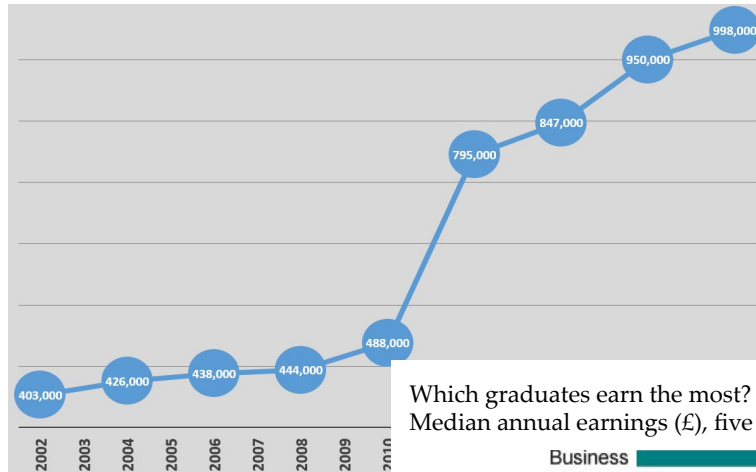
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- Skills in Computer Science can offer you an incredibly wide range of jobs!
- There are almost no job sectors which don't make use of skills related to:
  - Information Technology
  - Computer Science

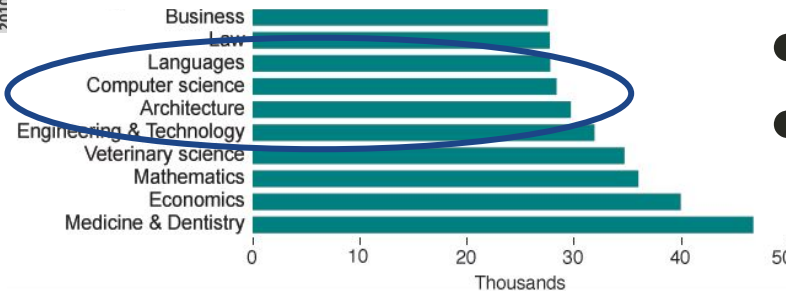




(Data from Office for National Statistics: <https://www.ons.gov.uk>)



Which graduates earn the most?  
Median annual earnings (£), five years after graduation.



Source: Institute for Fiscal Studies

BBC

Computer Science graduates have access to a broad range of professions.

- Software engineering
- Data Science
- AI
- Cybersecurity





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Word cloud containing the following terms: Gaming, Research, Medicine, Marketing, Consulting, Healthcare, Banking, Law, Finance, Tourism, Films, Agriculture, Advertising, Environment, Government, Retail, Defence, Manufacturing, Cyber-security.

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# Reasons to study Computer Science:



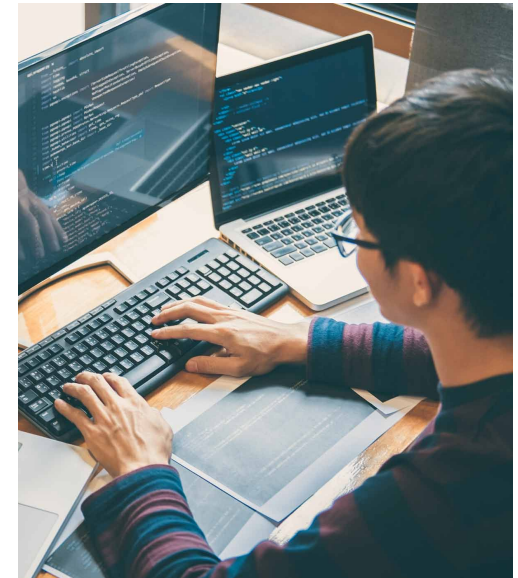
- Great careers in high demand
- Truly global careers, your work can take you round the world
- Computer Science is about working with people, helping people, solving people's problems and making changes
- Computer Science is entertainment, movies, music, games, animation, fashion, security and much more
- Computer Science is truly a large part of our daily lives

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## BEECHEN CLIFF

- Computer science is a rapidly growing subject that has become an integral part of the world that we live in today.
- You will gain a better understanding:
  - of how computing devices work
  - what the specifications of hardware mean
  - how computing devices communicate
  - how you can program them to solve real-world problems.





## BEECHEN CLIFF

- An integral part of the computer science A-level is the programming project, where you get to choose a real-life problem that you're interested in solving.
- This gives you the chance to develop your ability to:
  - analyse
  - critically evaluate
  - make decisions.





This is your chance to be **creative**.

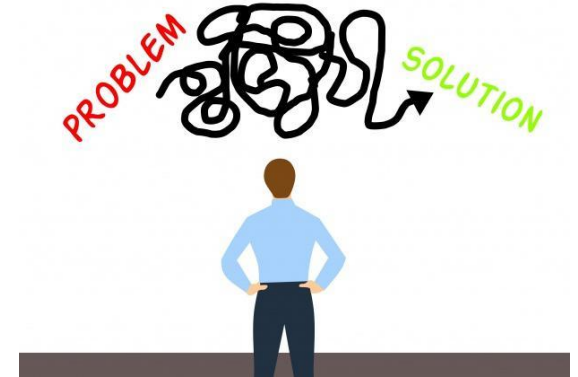
- Games of all sorts
- Holiday/meal planners
- Booking systems
- Role playing game tutor
- Quantum physics teaching aid





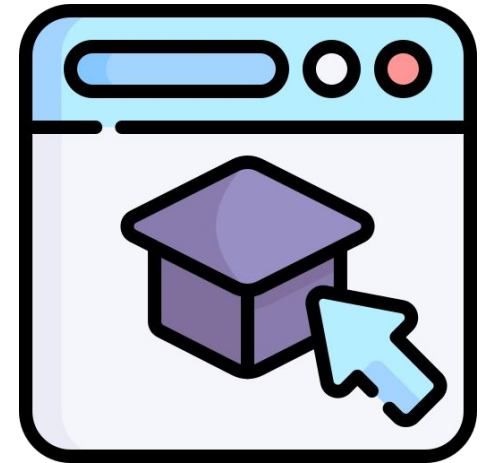
## BEECHEN CLIFF

- You will be better able to look at problems logically and systematically, decide what is important and make positive steps forward.
- These are all **skills** that are **transferable** to both your everyday life and other subjects that you choose to study.





- Internal computer components
- Cyber security
- Data representation
- Effect of digital technology on society
- Programming
- Networking and the Internet
- Software development





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# OCR A level course structure

	Component 1: Computer systems	Component 2: Computational thinking, algorithms and programming	Practical programming experience
How is it assessed	Written exam 2 hour 30 minutes	Written exam 2 hour 30 minutes	Marked by your teacher and moderated by OCR.
How much is it worth	140 marks Worth 40%	140 marks Worth 40%	70 marks Worth 20%
Other information	A series of short-answer and extended-answer questions.	A series of short-answer and extended-answer questions.	Assesses student's ability to use the knowledge and skills gained through the course to solve or investigate a practical problem.

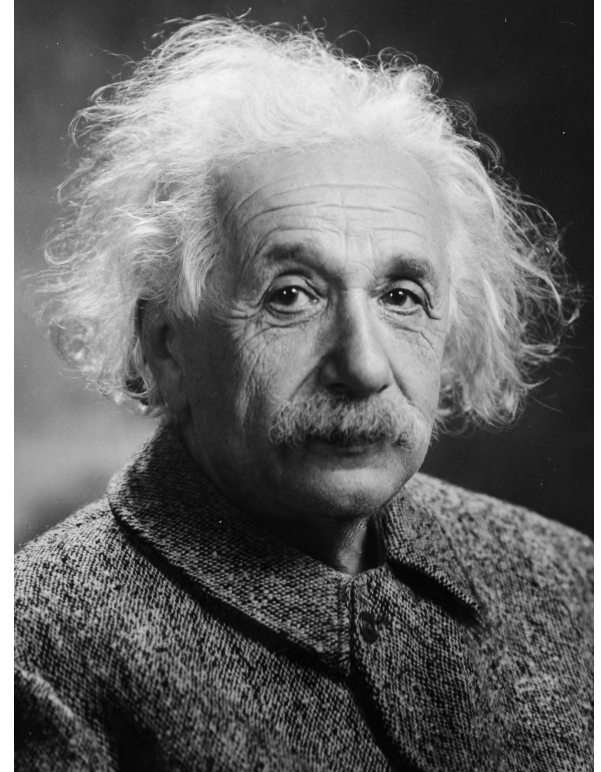
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## BEECHEN CLIFF

“Computers are incredibly fast, accurate, and stupid. Human beings are incredibly slow, inaccurate, and brilliant. Together they are powerful beyond imagination.”

Albert Einstein, physicist



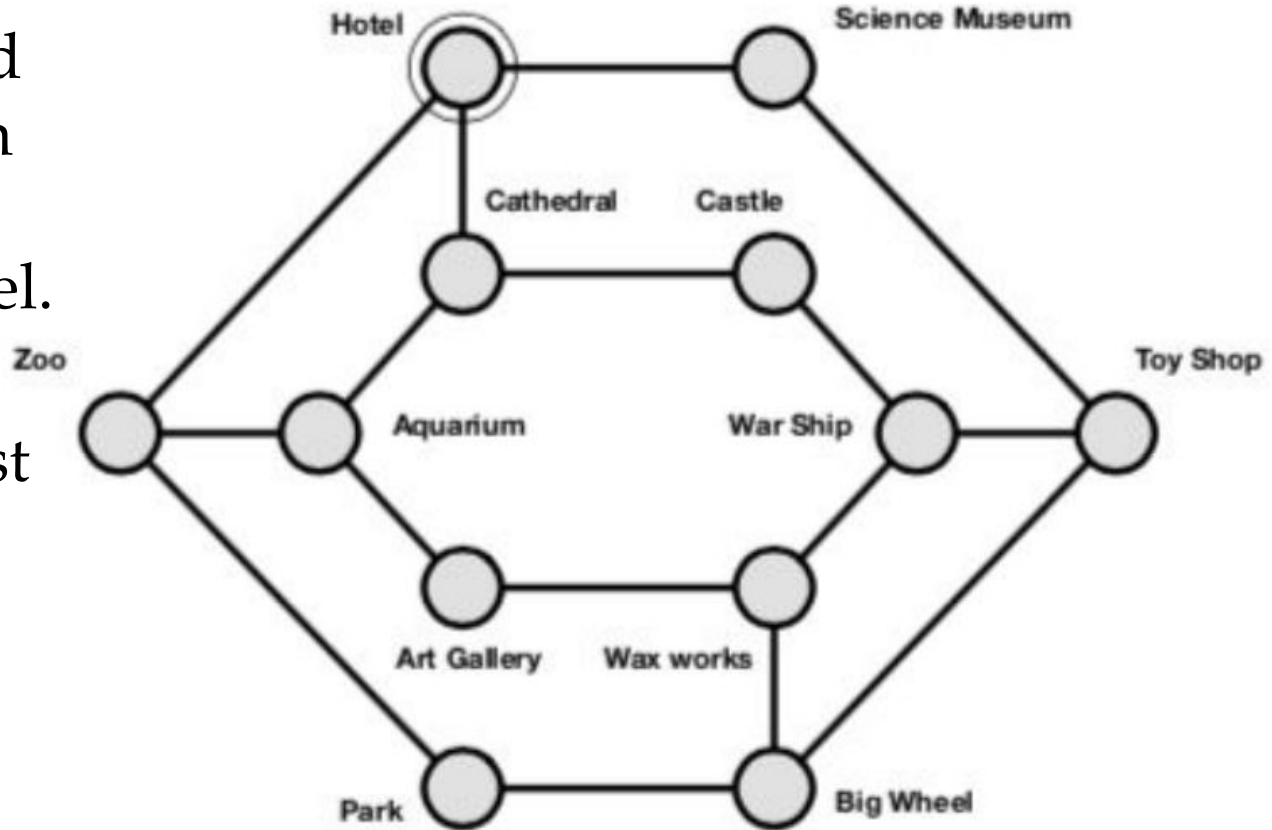


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# Have a go yourself ...

Start at the hotel and visit every attraction just once, before returning to the hotel.

What if the road past the castle is closed?  
Can you still plan a route to meet the conditions?



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Each of the digits  
1, 3, 4, 5, 6, 8, 9  
is represented by one of  
the letters from A to G.

Use these number facts  
to crack the code and  
find the value of each  
letter.

$$A + A = B$$

$$C + C = DB$$

$$A \times A = DF$$

$$C \times C = BD$$

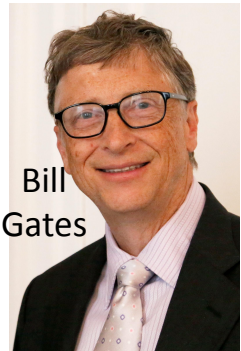
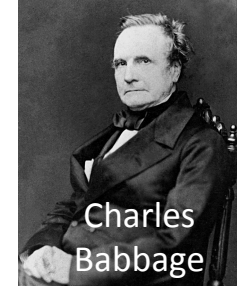
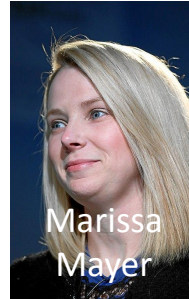
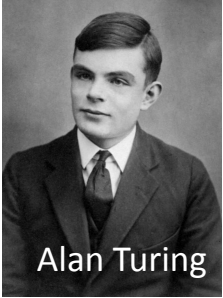
$$A + C = DE$$

$$A \times C = EF$$



## BEECHEN CLIFF

# Who are these people and what do they have in common?



They are all computer scientists - research their achievements if you don't know who they are or what they did.

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Where to get more information

Ms L Jarvis (Computing Lead - KS4&5)  
[lj Jarvis@beechencliff.mnsp.org.uk](mailto:lj Jarvis@beechencliff.mnsp.org.uk)

Mr A Cottle (Computing Lead - KS3)  
[acottle@beechencliff.mnsp.org.uk](mailto:acottle@beechencliff.mnsp.org.uk)

OCR Exam board website:  
[ocr.org.uk](http://ocr.org.uk)



Our A Level Computer Science qualification helps students understand the core academic principles of computer science. Classroom learning is transferred into creating real-world systems through the creation of an independent programming project. Our A Level will develop the student's technical understanding and their ability to analyse and solve problems using computational thinking.

Specification code: H446  
Qualification number: 601/4911/5  
First teaching 2015, with first assessment 2017

[Download A Level specification](#)

[Specification at a glance >](#)

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# Any questions?

We look forward to seeing you in A-Level  
Computer Science next year!



BEECHEN CLIFF

# A-Level Computer Science

@ Beechen Cliff School



I belong in  
computer  
science!

Insert your  
picture here

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