Script

Clue 1

Taylor

■ Hello, we're group 24. Thank you for looking at our presentation we ■ appreciate it if you could leave all questions till the end.

■ Our initial state was a pre-conceived perception that 'part' and 'major' referred to musical notes before having the evidence that it was true. This is where our depth first search began, as we choose our option and continued down that path without any consideration of critical information.

Arran

■ After translating musical notes into letters for a number of hours which we hoped would be the key to the cipher.

■ We found ourselves at a terminal state as we couldn't find a correct answer.

■ We decided to email the Captain, he had informed us our following process of cognition was incorrect.

Taylor

After crying for a few days, this led to a reconsideration of our perception of the question and therefore the critical information within the clue.

■After receiving an email on the actors...

Our viable options from the initial state had now changed as we now knew that Nicolas cage was the correct actor.

Arran

Through the use of decomposition, we were able to break down the problem into smaller parts and decided to continue using the depth first search for the remainder of the question.

With the help of a few emails,

■ we found that "part" corresponded to song and "Collection" with album.

Taylor

■ Through a bit of research we found all the actors which were the following on screen.

We began to look for actors with similar interest and found ■ that Christopher lee and Nicolas cage were both into similar band such as

Unfortunately, we could not find a connection with hop sing.

Arran

■ At this point we considered ourselves at the continuum. However, as we were at a terminal state we had to once again re-evaluate the question in sections. This narrowed down our search and reduced the complexity of the problem, as we know knew we should search for an author.

Taylor

With the use of research, ■ we found that the synonym for 'adventure' was 'exploits' and ■ the book 'Exploits of Captain O'Hagan' written by Sax Rohmar was the author we were looking for.

Arran

■ After The author being confirmed by Captain, we decided as group the most likely relationship between the actors and the author is a piece of work that the author had wrote.

The Novel created by the author was called Fu Manchu which all actors had a relationship with as shown on screen.

■ Nicolas cage Made an uncredited comedian cameo appearance as Fu Manchu during a trailer

■ Christopher Lee was in the following Fu manchu films

■ Victor Sen Yung was related to the following article comparing the Chan series to Fu Manchu.

Taylor

■ We as group decided to focus directly on Fu Manchu. After researching the information, ■ we came across a band on the wiki which was also called Fu Manchu.

Using our previous knowledge, ■ we remembered that we needed the ninth song of the second album which was 'egor'.

Arran

■ We now knew the key to decrypt the cipher, which in plain text decrypted as 'What is the atomic number for tungsten'. Which we found was 74.

The goal state had now been reached as we had completed the question.

Taylor

We as a group have learnt from our mistakes in this question and knew to focus directly on critical information and try to use the breadth first search method to analyse each path.

This will ensure we decrease the size of our problem space in order to solve a problem with efficiency and effectiveness. It also stops us from creating imaginary constraints ■

Clue 2

Taylor

Clue two's cognitive process was initially to understand the main question in order to gain a greater perception of the sub questions. After establishing our approach, we found out George Boole was the creator of Boolean algebra.

Arran

■ As a result of this our conclusion was that the answers to the sub questions would have a distinct relationship to Boolean algebra. We decided this was the appropriate heuristic to take for each answer and began to work on each question. Once the solutions had been found we would act by applying the defined procedural method.

NJ

■ The first question was very simple to solve. We searched for possible solutions to the theorem and came across Fermat's Last Theorem which states there can be NO zero-integer solutions.

This had therefore validated our initial conception of the question due to the answer being TRUE, which is identical to one.

Taylor

■ With question 2b we deduced through intuition that 'years of happiness' referred to Kevin's marriage as he often spoke about his wife in lectures. Our first approach was now to find the years he had been married through the clues given.

Arran

We had found that the Bombyx Mori was a silk worm and the two actresses were in a TV series. We looked at traditional marriage gifts and found silk was to be given at the 12th year anniversary. Therefore, we proposed that Kevin had been married for 12 years.

For the second part of the question, we had no idea what the sequence of values meant and decided the most probable use for the sequence was a serial number.

NJ

When researching the numbers, the result included two books from Amazon.

■ Through a few emails we were able deduce the missing values related to the novel numbers.

■Therefore, the missing number was 12 and we could now implement the values into the formula to find the answer.

Taylor

For the final sub question, ■ we quickly found that that de Fecamp Legacy was related to the construction of the Lincoln Cathedral this was due to the term 'Local' which was enforced our instinctive knowledge of the area.

■ We later found that Chauncey Depew was a US Senator who had hosted the grand opening of the statue of liberty

Arran

This was the reason for the audience being devoid of women as only his wife was allowed to be present. The current spire height of this monument is 93 meters.

■ We then completed the final sub question using the following method shown screen

NJ

■We were now able to use the final algorithm in order to reach the goal state of the questions. However due to the algorithm not being well-defined our efforts had been misdirected to the final answer.

Taylor

When getting the answer validated we had been informed that our result of 15 was incorrect which put us at an intermediate state.

We began to try a multitude of methods attempting to break down the question with any knowledge we had.

■We found a method that had the highest probability of a correct answer.■ This method gave us a range of values which complied with the answer only being two digits.

Arran

We randomly picked a number from the range and got it validated by Kevin. We had used this method to attempt to achieve a satisficing answer. We later learned this was called the scatter gun method to solving a problem.

■We later found that the question had been changed.

■We repeated our initial method and got the correct result.

NJ

We later learned that our approach to this question and others resembled Simons model, which can define a structured approached to solving a problem. The model has four steps.

■

We had detected the relationship between Boolean states and the sub-questions, Decided on an approach, Remembered the algorithm and Acted Upon our results. Each time this process was repeated, it is referred to as a cycle. ■

Clue 3:

NJ

To establish which paths, we were going to take we used abstraction to only focus on relevant parts. We searched our internal problem space to conclude which of the possibilities may have the most likely outcome and followed that path.

Taylor

■We believed Comic book character was an abbreviation for a mnemonic. This led to us researching the letters CBC and the city Saône-et-Loire. As a result we had come across a French Female Basket Ball team which had conveniently failed to reach a certain division twice exactly 10 years apart.

NJ

■After a lot of research, we found it was Alain Robert, the French Spiderman, failed his dream 10 years apart. Therefore, the answer was 60.

Taylor

We remembered the exact day with a bit of help from a calendar. The first lecture took place on the 26th of September.

NJ

The hat size was derived from the magic trick during one of Kevin's lectures. The end result of this was 61. ■

Clue 4

Arran

■We first used decomposition to break down the problem. Within our initial state, we made a logical assumption that all five names in the clue related to one another. We also knew that it was a simple procedural method to find the answer once the actor had been found.

NJ

A quick google search found that all four were screenwriters. Babara Streisand, a famous singer-songwriter, was pictured with all four screenwriters, our preconceived perception was that she might be the fifth name yet another group member found a different lead.

Arran

■Each screenwriter had won an award for best original screenplay. They were displayed in the same order as the names on the assignment brief. Paddy Chayefsky, otherwise known as Sidney Aaron won both years before and after the four screenwriters.

Arran

■Due to an ill-defined question, we assumed plain text referred to ASCI or Unicode, we converted the 5th screenwriter's name into binary, and then performed the algorithm for the task. Allowing us to obtain the result.

NJ

■Kevin gave us a clue; the plain text substitution was used in a previous lecturer. Using our previous knowledge, we recalled when Kevin used the grey elephant in Denmark trick. This was done by replacing A with 1, b with 2 and so on. Eventually we found the correct answer. ■

Clue 5

Arran

■During our process of clue five we did not use the online resources that where available to us. There was also a lack of resources on the building demonstrated in clue 5.

NJ

■As a result, we were not able to manage our time efficiently therefore, our time was used ineffectively. This led to use trailing off for a while until we remembered we could utilize google image search to our advantage.

■ After optimizing google image search and finding the reasons why the buildings were famous...

■we were able to implement the first answer into the question.

Arran

- ***Show second part***

■By using google maps it allowed us to intuitively know that we were focusing on the correct information. For the second part of the question we knew its meaning.

NJ

However, we had struggled to locate a viable resource that we could use to convert bases in order to find the second number that is palindromic in both base 6 and 36.

■ One member thought that 7 was the first palindromic number in base 6 and 36, so this would make 37 the second palindromic number.

Arran

We had the answer validated by Kevin in an E-Mail. He argued that 37 was the first palindromic number and 7 wasn't. ■

From the information given we had come to a conclusion that 74 was the second palindromic number.■

Clue 6

NJ

■Clue 6 was our last hurdle to reach the overall goal state and to finish acquiring the hidden values needed to complete the first task. Clue 6 had one major constraint in regards to our group having a lack of knowledge on cricket terminology.

Taylor

■Having discussed as a group the approach we were going to take, we determined abstraction was going to be key to decompose the problem. This would therefore allow us to create a general idea of what the problem is and how we can solve it.

Arran

■However, for the first part of the question we knew that the image related to a truth table...

and decided our first course of action was to solve the truth table in order to gain an insight to the question as a whole.

■Due to the truth table being present we could determine that the term LED was an acronym for Light-Emitting-Diodeas as truth tables can represent electoral states.

NJ

■Through the table we determined the output as follow

A few of the group members mentioned the symbolic representation behind the term LED and that it represented a light bulb.

Taylor

After finding out the answer to the first part we realized it did not give us an insight to the question as a whole. As a result, the complexity of part two still remained the same.

We established the sequence of numbers referred to cricket through the use of intuition as a member of the group knew the mnemonic 'LBW' meant leg before wicket.

■After further research we found a tweet referring to an Ashes game resembling the sequence.

Arran

While trying to figure out what the sequence meant. One of our group members tried to explain how cricket worked as a whole.

This became a recurring lesson during our group meet ups. This information would be assigned to our short-term memory which did not help for following meet-ups.

NJ

■

In regards to short-term memory, Miller's law can be used to justify our process of storing cognition.

A rule was proposed to attempt to quantify the short-term memory limitations.

It was proposed that an average human can hold (7 ± 2) symbols in short-term memory at any given time

The memory model is another way we can view a human's way of retaining knowledge.

■This is our model of retaining knowledge throughout the whole assignment

Taylor

Information taught is written to short term memory using a method such as associative learning.

Associative learning is where any learning process in which a new response becomes associated with a particular stimulus.

Environmental inputs can be written to long term memory by using repetition of stimuli. which Data can be retrieved from long term memory which is then brought forward into short term memory and then an output can be formulated.

By using chunking, inputs can be learned easier due to simplifying a situation. Chunking is a method which involves grouping induvial pieces of information form larger units of data.

Arran

■After spending many years under the guidance of Nathan, mastering the art of cricket, ...

we reviewed the tweets we had previously found and noticed that they had an additional number on the end. In one of Kevin's lectures, he stated that the answer to clue 6 was obvious. We made a logical assumption that a person who played and enjoyed cricket would immediately notice that part of the score was missing.

■We got our assumption validated, the final answer was found out by dividing 168 by 4 which is equal to 42.

NJ

After solving all six questions one of our major physical constraints was that all members schedule clashed with one another.

Task 2

Taylor

■Now that we had finished all the clues, we had finally reached the goal state for task 1. Task two began with us having a mental pre-conceived perception that the function had to be applied to each two digit number. The reasoning for this was we did not take notice to the key word 'position'.

Taylor

■After a week of applying our own functions to the sequence. We analyzed the question again and proposed that' position' could be referring to an index. After using the index method for all three functions we had our answer validated by Kevin.

Arran

■We prejudged that the output would have some resemblance to Asci/Hex code, as our assumption (Change to keyword) was that the output would need to be universal across all coding languages. This was established since it had been declared in the lectures that the hidden codes' output could be written in any language.

NJ

Our approach to the hint was to link any relationships or patterns the hint had with the sequence.

Taylor

One pattern we had established was that all the numbers in the sequence were less than or equal to seven. This led us to believe each number represented a day.

Arran

This was a major construct in the progression of the question, as it allowed get closer to reaching the goal state. ■ With a few email we were able to find another distinct pattern due to Kevin informing us 'why would the length be important'.

■This narrowed down our viable options for an output as we believe each number in the sequence referred to a month

Nj

■We looked at the first number of each month and attempted to find a pattern. There was no pattern present for 2017. However, for 2018, the date for the first Sunday of every month had a distinct relationship to the hidden code.

Taylor

■ After a lot of work, we established that the return value of the program was a day and began to create an interface that would allow you to enter any date in 2018 and the program would return the day of that date.

Arran

This can be found by a simple algorithm, first assign a month to each of the values of the hidden code, using your birthday as an example, your hidden code number would be 7 as it is the 10th number in the sequence.

NJ

You must then conclude if the number is higher or lower than the hidden code value. As the 17th is greater than 7, you would minus the value from the hide code. If the value is less than you add it to the hidden code.

Taylor

Finally, you must find the remainder of the difference between the values and this will provide you with your day. In this example, the remainder would be 3, therefore Wednesday.

Task 3

NJ

By creating a program rather than Pseudo code we were able to use the Machine model to our advantage due to most computers using the Von Neumann Architecture.

Taylor

■Using our program on the basis of the architecture, we can demonstrate how the model works as shown on screen.

- ***Input: Input data into console***
- ***Process: Executing the code***
- ***Memory: storing data for example arrays and vars***
- ***Output: writing the process to console.***

ENDING PARAGRAPH

NJ

■ The Turning Machine is a way to model any machine, it has an infinite length of tape which is divided into sections that store symbols. Because of this it can be given any computer algorithm and is able to simulate its logic. When the tape reads a symbol, it then decides on a process.

Taylor

The turning machines can have multiple states, the action performed depends on the current state. Each state will execute a certain task depending on the scanned symbol. For example,...

When it reads a X in state 1, the machine may do one action, if it reads a X in state 2 it would do another action.

Arran (Conclusion)

■ Minion

■ Boat kev

■ Mariachi band Kev

We have all enjoyed this assignment and are now willing to answer any question you may want to ask.