Week 1

1. * Which of the following is used in the process of computational thinking?

Choose one of the following answers.

○ Algorithm

○ Decomposition

○ Abstraction

○ Pattern recognition

✓ ◉ All of the above

That is correct! Algorithm, decomposition, abstraction and pattern recognition are all computational thinking competencies.

Week 2

1. * In which of the following disciplines can you see computational thinking application?

Choose one of the following answers.

✗ ◉ Biology

○ Economics

○ Arts

○ Engineering

○ All of the above

Computational thinking can be applied across all these disciplines and more.

1. * What is abstraction in computational thinking concept? Check all that apply.

Choose at least one answer.

✓ ☑ Simplifying the complexity

✓ ☑ Pointing out necessary information

✓ ☑ Filtering out irrelevant detail

All the options are descriptions of what abstraction is as a computational thinking competency.

1. * Which of the computational thinking competency allows you to break down a complex phenomenon into smaller chunks to solve a problem?

Choose one of the following answers.

○ Abstraction

○ Algorithms

✓ ◉ Decomposition

○ Pattern Recognition

○ None of the above

Decomposition helps us to break down a problem into smaller chunks so that we can divide and conquer complexity.

1. ✱ Which of the following example(s) illustrates pattern recognition? Check all that apply.

Choose at least one answer.

✗ ☑ Ascending the numbers

✔ ☑ Having students to learn colors and shapes by clustering them

☐ Asking students to evaluate the locations of volcanoes and earthquakes across the globe

☐ Grouping students randomly

Ascending the numbers is about algorithms and not pattern recognition.
Grouping students randomly does not have a clear set of grouping and thus has no pattern.

1. ✱ How does computational thinking benefit us the most?

Choose one of the following answers.

◯ To learn computer programing

◯ To think like a machine or computer

✔ ◉ To solve complex problems by using specific techniques

◯ None of the above

While computational thinking may support us in learning computer programing or to think like a machine or computer, it is most helpful in providing us with specific techniques to solve complex problems found in various aspects of our lives.

Week 3

1. ✱ Baking a cake by following its step-by-step instructions is a good example of...

Choose one of the following answers.

◯ Decomposition

◯ Pattern recognition

◯ Abstraction

✔ ◉ Algorithms

Algorithm is a step-by-step process while solving a problem.

2. ✱ A MRT map is a good example of...

Choose one of the following answers.

✔ ◉ Abstraction

◯ Pattern recognition

◯ Algorithms

◯ Decomposition

Abstraction allows us to simplify the complexity and bring up relevant necessary information.

3. ❋ Breaking down choreographic forms of dance into smaller acts (e.g., narrative, canon, retrograde) is an example of...

Choose one of the following answers.

✔ ◉ Decomposition
   ○ Abstraction
   ○ Pattern recognition
   ○ Algorithms

Decomposition is a breaking down process while solving a problem.

4. ❋ Pairing up your socks back together is an example of...

Choose one of the following answers.

   ○ Algorithms
   ○ Decomposition
   ○ Abstraction
✔ ◉ Pattern recognition

Pattern recognition helps us to match up the right sock pairs.

1. ❋ Grouping given items according to their colors and shapes is a good example of…

Choose one of the following answers.

   ○ Abstraction
   ○ Algorithms
✔ ◉ Pattern recognition
   ○ Decomposition

Pattern recognition helps us to group items in the same category.

2. ❋ Evaluating the locations of volcanoes and earthquakes across the globe to find out similarities is a good example of…

Choose one of the following answers.

   ○ Decomposition
✖ ◉ Abstraction
   ○ Algorithms
   ○ Pattern recognition

Pattern recognition helps us to find the similarities across locations.

1. ❋ Computational thinking applications are more applicable in the computer science field.

Answer:

   ○ True
✔ ◉ False

Computational thinking applications are applicable in any discipline.

2. ❋ Computational thinking requires knowing technical skills.

Answer:

   ○ True
✔ ◉ False

You do not have to have any technical skills to understand computational thinking.

1. ***** What are the benefits of computational thinking competencies?

Choose one of the following answers.

○ It enables us to know how to use the computer.

○ It enables us to understand how programming works.

✔ ⦿ It enables us to understand how to solve complex problems.

○ It enables us to know how computer parts work.

Computational thinking competencies allow us to solve complex real-world issues.

2. ***** Computational thinking competencies allow us to....
(Check all that apply)

Choose at least one answer.

✔ ☑ Construct possible solutions

✔ ☑ Identify a complex problem

✔ ☑ Analyze what the problem is

Computational thinking competencies allow us to identify complex problems, detect the type of problem, and develop potential solutions to solve the problem.

3. ***** Computational thinking application can facilitate improving our...
(Check all that apply)

Choose at least one answer.

✔ ☑ Thinking skills

✔ ☑ Interdisciplinary connections

✔ ☑ Problem-based learning skills

Computational thinking competencies allow us to improve not only our interdisciplinary connections, but also our problem-based learning and thinking skills.

Week 4

1. ***** Which of the following real-life questions can be considered as quantitative reasoning problems?

Choose at least one answer.

☐ When should I start from home to reach school on time?

☐ Which canteen stall to queue up for lunch if I am in a hurry?

✔ ☑ Should I buy health insurance at my current age, or wait?

Every problem mentioned in the question requires you to think quantitatively. In case of health insurance, you need to estimate the risk and gain based on probabilities. In case of time estimates, you need to know about routes and traffic flows. In case of canteen queues, you need to know about the processing time for the food as well as service time depending on the rush and manpower.

1. ***** Arrange the following steps in order, as they are considered while solving a quantitative reasoning problem.

Sort answers in the right order (click on the answers to drag-and-drop in order).

✔ Framing concrete numerical questions

✔ Identifying tools and data for analysis

✔ Building models to analyse the data

✔ Analysing the results you obtained

1. ***** Suppose you find that the mean time for headache subsiding in case of drug trials is just 2 minutes and the mean for headache subsiding in case of placebo is 20 minutes. Which of the following is true in this case?

Choose one of the following answers.

○ Taking the drug will never result in subsiding the headache in time lower than placebo.

○ Taking the drug results in a lower time for subsiding the headache most of the time.

✔ ⦿ Taking the drug results in a lower time for subsiding the headache on an average.

○ Taking the drug will always result in a lower time for the headache to subside.

Only lower on an average. We can't claim any of the other three cases without further information.

1. 6 What do you think is the probability (chance) of a data point being 7 Standard Deviations away from the Mean? Take a guess or search online for a technically correct estimate.

What do you think is the probability (chance) of a data point being 7 Standard Deviations away from the Mean? Take a guess or search online for a technically correct estimate. **✱**

Choose one of the following answers.

- ○ Probability 1/10, that is, chance of 1 in 10.
- ✖ ◉ Probability 1/100, that is, chance of 1 in 100.
- ○ Probability 1/1000000000, that is, 1 in a Billion.
- ○ Probability 1/1000000, that is, 1 in a Million.

Shocked? It is actually even less! Go through the remaining portion of the lesson to see how we use this.

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1. ✱ What does Mean of a distribution signify?

Choose one of the following answers.

- ○ The behaviour of each individual data point.
- ○ The "deviation" of data points from the average.
- ○ The extreme behaviour of the data points.
- ✔ ◉ The behaviour of data points "on an average".

Mean is quite literally the "average" behavior of the data points, and is computed as "average" as well.

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2. ✱ What does Standard Deviation of a distribution signify?

Choose one of the following answers.

- ○ The behaviour of each individual data point.
- ○ The extreme behaviour of the data points.
- ✔ ◉ The "deviation" of data points from the average.
- ○ The behaviour of data points "on an average".

Standard Deviation is the average deviation of a data point from the Mean of the distribution, computed as follows.
SD = square-root(sum(square(data point - mean)))

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1. ✱ We found that the drug is not identical to the placebo in case of our headache trials. This means the drug actually works in case of headaches better (faster) that placebo. Will you now take the drug for headache?

Choose at least one answer.

- ☐ Not sure yet. Need to perform a cost-benefit analysis if I know the price.
- ✖ ☑ Yes, of course. The drug will surely work for me in case of headaches.
- ✔ ☑ Not sure yet. The drug reduces the time only by 4 minutes on an average.
- ✔ ☑ Not sure yet. The drug works better in general, but will it work for me?

The trials and statistics only provides you with numeric analysis of the problem. But decision making is a bigger challenge, and often your individual preference.

Week 5

1. ✱ Suppose you find that the mean marks obtained by students in your class is 75, while the standard deviation is 5. If there are 500 students in your class, then roughly how many of them scored between 70 to 80, if you assume a bell curve?

Choose one of the following answers.

- ○ No one scored within that range, as it is too narrow.
- ○ Maximum students score within that range, so 450.
- ✔ ◉ Must be close to 68% for Mean +/- SD, that is, 340.
- ○ My guess will be about half of the class, that is, 250.

If you assume a distribution is like a bell-curve, that is, if you have a Normal/Gaussian distribution, then the number of data points within the band of Mean – SD to Mean + SD is expected to be 68% of the total data points. This is a property of Normal/Gaussian distributions.

1. ***** Area has a correlation of 0.76 with Price, while Quality has a correlation of 0.81 with Price. Area has a prediction error (standard error) of 51503 for Price. What do you think will be the error in case of predicting Price using Quality?

Choose one of the following answers.

✔ ⦿ Must be less than 51503, but not sure how much.

  ◯ Error can be same as the standard error for Area.

  ◯ Error should be about half, that is, around 25000.

  ◯ Errors are not at all related to the correlations.

Correlation does matter in case of standard error for prediction, and the higher the correlation, the lower the standard error. So, it will surely be lower.

1. ***** Suppose you model you score for a course as follows.
Score = 5 x ClassTime/Week + 3 x RevisionTime/Week + 50

If the classes run for 3 hours a week, how much revision time would you need per week to score above 80?

Choose one of the following answers.

✔ ⦿ For Score > 80, we need RevisionTime/Week > 5 h.

  ◯ The relationship is not provided in the given model.

  ◯ For Score > 80, we need RevisionTime/Week < 5 h.

The model gives you an estimate of score based on the features ClassTime and RevisionTime per week. Thus, we can calculate the features required to obtain a specific value (or range) of the response.

Week 6

1. ***** Cyber security refers to _____ implemented by an organisation to protect its cyber assets from damage, malicious attack and unauthorised access. Select all that apply.

Choose at least one answer.

✔ ☑ technologies

  ☐ practices

✔ ☑ processes

Cyber security refers to the technologies, processes and practices that are put in place to protect data, devices, programs or networks from damage, malicious attack and unauthorised access.

1. ***** Please identify the strongest password combination from the following.

Choose one of the following answers.

  ◯ S1ng@Pore

  ◯ password

  ◯ P@ssw0rd

✔ ⦿ c3V@6t!G

It is recommended to use passwords with unique combinations (letters, numbers, mixed case, special characters) that will enable your account to withstand relentless attacks by hackers.

1. ***** Data is only available in digital format.

Answer:

  ◯ True

✔ ⦿ False

Data refers to information processed by a computer. Information can be in physical (e.g., text documents, images) or digital (e.g. audio clips, software programs) format.

2. ***** Data is classified into four levels of security. What are the four levels?

Choose one of the following answers.

  ◯ Open, Internal, In-confidence, Highly Confidential

  ◯ Public, Internal, Sensitive, Top Secret

✔ ⦿ Open, Restricted, Confidential, Classified

  ◯ Open, Restricted, Confidential, Secret

For a recap of the four levels of data classification, please watch the video on Data Security again.

1. * What is the key purpose of Blind Carbon Copy (BCC)?

Choose one of the following answers.

- ○ Meant for recipients who are required to take action in response to your email
- ○ To keep someone in the loop even if a message does not directly concern them
- ✔ ◉ To keep the identities of the recipients confidential

The use of BCC can be applied when sending impersonal emails, such as announcements, to a large list of people who may not know one another. This is a polite gesture that respects the privacy of the receivers – protecting their identities while avoiding chain email communications that may be irrelevant to them.

2. * Which of the following statement best describes how we can reduce the risk of being hacked when connected to a public Wi-Fi network?

Choose one of the following answers.

- ○ Always use trusted public Wi-Fi networks
- ○ Avoid doing any sensitive transactions e.g. internet banking
- ○ Ensure that your device has an up-to-date antivirus software
- ✔ ◉ All of the given options

For a recap of the best practices when connecting to a public Wi-Fi network, please watch the video on Acceptable IT Usage again.

Week 7

1. * What are the main objectives of the NTU Cybersecurity team? Select all that apply.

Choose at least one answer.

- ☐ Accountability
- ✔ ☑ Availability
- ✔ ☑ Confidentiality
- ✔ ☑ Integrity

The NTU Cybersecurity team aims to achieve:
1. Confidentiality - Ensure data or information cannot be read by unauthorized personnel.
2. Integrity - Data or information held by NTU remains accurate and unmodified by unauthorized personnel.
3. Availability - Data or service remains usable with sufficient capability to deliver our educational services.

These objectives are highly applicable across society and are the key considerations for many other organizations when managing cybersecurity.

1. * Which of the following actions aligns with the Acceptable IT Usage Policy (AIUP)? Select all that apply.
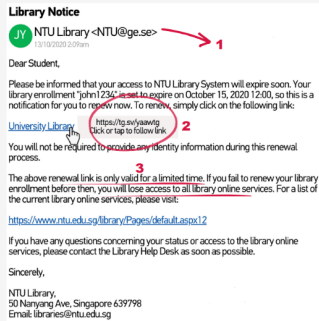
Choose at least one answer.

- ✔ ☑ Do not forward any university document to your personal email address
- ✔ ☑ Use Blind Carbon Copy (BCC) when sending mass emails
- ☐ Share your passwords with close friends only

It is a violation to the AIUP to share your password with **anyone**.

1. ***** What are the steps to check if we have received a phishing email such as the following? Match the steps labelled in the image with the correct description.

Library Notice

JY NTU Library <NTU@ge.se>
13/10/2020 2:09am

Dear Student,

Please be informed that your access to NTU Library System will expire soon. Your library enrollment "john1234" is set to expire on October 15, 2020 12:00, so this is a notification for you to renew now. To renew, simply click on the following link:

University Library   https://tg.sv/yaawtg Click or tap to follow link   **2**

1

You will not be required to provide any identity information during this renewal process.

3

The above renewal link is only valid for a limited time. If you fail to renew your library enrollment before then, you will lose access to all library online services. For a list of the current library online services, please visit:

https://www.ntu.edu.sg/library/Pages/default.aspx12

If you have any questions concerning your status or access to the library online services, please contact the Library Help Desk as soon as possible.

Sincerely,

NTU Library,
50 Nanyang Ave, Singapore 639798
Email: libraries@ntu.edu.sg

Pick up the corresponding answers.

✔ Step 1	Check the sender's email address ⌄
✔ Step 2	Verify the legitimacy of the link before clicking ⌄
✔ Step 3	Look out for urgent threatening language ⌄

1. ***** From the previous video, we learn that the acronym PASS can help us to remember how we can practise good cyber hygiene. What does it stand for?

Choose one of the following answers.

○ Password, Auto sign-in, Spot signs of phishing, Security

○ Protect devices, Auto sign-in, Synchronize data, Security

✔ ◉ Password, Antivirus, Spot signs of phishing, Software application

○ Protect devices, Antivirus, Synchronize data, Software application

PASS stands for **P**assword, **A**ntivirus, **S**pot signs of phishing, and **S**oftware application. This serves as a reminder and provides practical tips for us to stay cyber safe.

Week 8

1. ***** What do we mean by "fake news?"

Choose one of the following answers.

✔ ◉ A specific type of falsehood intentionally packaged to look like news to deceive others

○ The intentional dissemination of false information

○ The inadvertent dissemination of false information

○ General term for false information online

Fake news is a type of disinformation that mimics the look and feel of real news to increase its deceptive power.

1. ***** What are the motivations for the creation of fake news?

Choose one of the following answers.

○ Ideological

○ Financial

✔ ◉ All of the above

Fake news creators are motivated by two main factors. First, some fake news creators seek to make money from digital advertising. By creating outrageous content, they increase traffic to their sites. Second, other actors create fake news to push for a certain political agenda, such as to discredit political rivals or sow chaos in a target country.

1. ***** In a survey conducted in Singapore in December 2019, which type of news consumption was found to be positively related with belief in fake news?

Choose one of the following answers.

✔ ◉ Social media news use

○ All types of news use

○ Traditional news media use

This survey, as well as previous studies in other countries, found that social media news use is positively linked to higher propensity to believe in fake news. Why do you think this is the case?

2. ***** Confirmation bias refers to

Choose one of the following answers.

✔ ◉ Human tendency to seek and believe in information that confirms our existing beliefs

○ Human tendency to believe a lie when it is repeated several times

○ Some individuals have high confidence in their ability to spot fake news but actually have low capability

○ All of the above

It is easier for us to process new information when it already aligns with our existing beliefs. This makes our lives simpler, but also makes us vulnerable to fake news.

1. ***** Why do most people ignore false news on social media?

Choose one of the following answers.

○ The topic is not relevant to them

○ They want to avoid arguments

○ They don't want to hurt the feelings of those who posted the incorrect post

○ They think that taking action won't have any impact

✔ ◉ All of the above

When people who are able to spot fake news do not do anything, they allow fake news to thrive. Some people post something on social media not because they believe in it, but sometimes it is because they are not sure and they hope someone can verify it for them.

2. ***** Why do most people ignore false news on social media?

Choose one of the following answers.

○ The topic is not relevant to them

○ They want to avoid arguments

○ They don't want to hurt the feelings of those who posted the incorrect post

○ They think that taking action won't have any impact

✔ ◉ All of the above

When people who are able to spot fake news do not do anything, they allow fake news to thrive. Some people post something on social media not because they believe in it, but sometimes it is because they are not sure and they hope someone can verify it for them.

Week 9

1. ***** True or false: Authentication of information is a purely individual-level process.

Answer:

○ True

✔ ◉ False

Authentication can also be a social process. Some people post information online, hoping someone will authenticate for them. Others also turn to family or friends to authenticate information they are unsure about, which is a form of external authentication.

1. ✱ Singapore's law to combat fake news, which was passed into law in May 2019, is called:

Choose one of the following answers.

○ Anti-Fake News Law

✔ ◉ Protection from Online Falsehoods and Manipulation Act

○ Network Enforcement Act

○ None of the above

POFMA was passed into law in May 2019 and empowers ministers to issue orders to individuals, internet providers, tech platforms, and mass media outlets to correct or take down posts that are deemed false and threaten public interest.

1. ✱ Which process "occurs post publication and compares an explicit claim made publicly against trusted sources of facts?"

Choose one of the following answers.

○ Verification

✔ ◉ Fact-checking

○ None of the above

Fact-checking is the process of authenticating information already in the public domain. Verification is a process that is done prior to publication.

2. ✱ What is a "truth sandwich?"

Choose one of the following answers.

✔ ◉ A fact-check format where correction is first presented, followed by the falsehood being debunked, and ending with the correction being stressed again.

○ A format used by a fact-checking site where the number of sandwiches accompanying a post visually indicates the truthfulness of the post (i.e., having five truth sandwiches means the post is completely true).

○ A viral fake news post saying a type of sandwich can make people immune to fake news.

To avoid primacy effects, which may cause a fact-check to backfire, some suggest that a fact-check should start with the correct information and not start by repeating the post being debunked (because some people will remember what they see first). The fact-check should also end with the correction being stressed or repeated, so as not to let recency effect kick in (i.e., some people may remember the last thing they read).

Week 10

1. ✱ Why is ethics important to the use and development of digital and online technologies?

Choose one of the following answers.

○ a) These technologies only inflict harm and misery upon humanity. We need ethics to finally end the madness.

○ b) It is morally wrong to use digital and online technologies. Ethics is needed to help us find a way to overcome our dependance on these technologies.

○ c) These technologies pose risks of harms to privacy, security, fairness, and other values. Ethics shows that these values are ultimately not important.

✔ ◉ d) Although digital and online technologies bring many benefits, they also pose risks of harms to privacy, security, fairness, and other values. Therefore, we need to develop and use these technologies in ways that avoid their associated harms while getting the most from their benefits.

A is incorrect. Digital and online technologies offer remarkable benefits in the form of knowledge, communication, efficiency, and personalization.

B is incorrect. While some uses of digital/online technologies can be wrong, such as cyberbullying and stealing private information, not all uses of these technologies are wrong.

C is incorrect. Privacy, security, and fairness are important values, and they are widely recognized as such.

D is correct. Ethics helps us assess how to develop and use digital/online technologies in ways that avoid their associated harms while getting the most from their benefits.

1. * Which of the following is an **incorrect** application of a moral theory to the evaluation of cyberbullying?

Choose one of the following answers.

○ a) Society as a whole would be better off if people didn't cyberbully each other. Therefore, from a utilitarian point of view, cyberbullying is morally wrong.

○ b) Cyberbullying is cruel because it subjects another human being to anguish and humiliation. A virtuous person would not be cruel. Hence, from the perspective of virtue ethics, cyberbullying is morally wrong.

✔ ◉ c) Cyberbullying respects the rationality and autonomy of the victim, since it gives the victim a chance to rationally and autonomously overcome the distress caused by cyberbullying. Therefore, cyberbullying is morally right from the perspective of Kant's ethics.

○ d) Cyberbullying does not respect the victim as a rational and autonomous being. It causes depression and anxiety, which is known to weaken a person's sense of control over their own lives. It also causes irrational, self-harming behavior such as eating disorders and suicide attempts. Therefore, from the perspective of Kant's ethics, cyberbullying is morally wrong.

1. * Which of the following actions interferes with a person's informational privacy?

Choose one of the following answers.

○ a) Inviting someone to follow another person's profile on social media (e.g., Twitter or Instagram), because you think they post interesting content.

✔ ◉ b) Revealing confidential secrets about a person's sexuality online.

○ c) Spreading defamatory lies about someone in an attempt to destroy their reputation.

○ d) All of the above.

1. * Frances Haugen [*see references below] was an employee at Facebook for 2 years until May of 2021. While working at the social media giant, she worked on the civic integrity team. Over time she became persuaded the company was not doing as much as it could to combat misinformation, cyberbullying, hate speech, addictive behavior, criminal activity, and espionage on the platform. She suggested to her superiors that Facebook should hire more people to deal with these issues properly, but the company took no action.

Haugen then collected thousands of internal memos and studies suggesting that Facebook itself was aware of the harmful and criminal behavior taking place on its platform, but chose not to address it in order to boost user engagement. She released the documents to the United States Securities and Exchange Commission, together with a whistleblower complaint. In October of 2021, she testified before the United States Senate that Facebook was prioritizing profits over the safety of its users.

According to Richard De George's criteria, was Haugen's act of whistleblowing morally obligatory, morally permissible, or neither?

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Choose one of the following answers.

✔ ◉ a) Under De George's criteria, it is morally obligatory to blow the whistle in this case.

○ b) Under De George's criteria, it is morally permissible but not obligatory to blow the whistle in this case.

○ c) Under De George's criteria, it is neither morally obligatory nor morally permissible to blow the whistle in this case.

○ d) None of the above.

Week 11

1. * Match each word in Column A with the correct type of IP protection in Column B.

Pick up the corresponding answers

✔ Software code	Copyright ⌄
✔ Formula for a popular soft drink	Confidential information ⌄
✔ A made-up word for a brand name e.g. Lazada or Reebok	Trademark ⌄
✔ A new type of paper clip	Patent ⌄

Software code is protected by copyright as it is WRITTEN with computer language that has its own syntax.

A new type of paper clip can be protected by a patent as it may present a NEW way to better secure multiple sheets of paper together.

Formula for a popular soft drink can be protected as a trade secret, i.e., confidential information.

A made-up word for a brand name (for example LAZADA or REEBOK) can be protected as a trademark to be used in business.

1. * Assuming Denise was 25 years old when she took the photograph in 2021, and that she dies in in the year 2060, how many years in total will the copyright in her photograph last?

Choose one of the following answers.

- ○ 134
- ○ 75
- ○ 39
- ✔ ◉ 109

This is a matter of doing the math right! (2060 – 2021) + 70 = 109!

2. * Time passes, and it is now 2050. Jean has a heart attack and dies on 15 March 2050. When does the copyright in her photograph expire?

Choose one of the following answers.

- ✔ ◉ At the end of 2120
- ○ It becomes part of the public domain upon Jean's death
- ○ When Jean dies
- ○ At the end of 2125

The copyright in Jean's photograph expires at the end of 2120, that is, 70 years after the year of Jean's death. That is when the photograph enters the public domain.

3. * Which of the following is true about Denise's photograph?

Choose one of the following answers.

- ○ It has no originality.
- ○ It was made with a digital camera, and is therefore not fixed in a physical copy.
- ✔ ◉ It enjoys copyright protection as an independently created work.
- ○ It is an infringement of Jean's photograph.

It is an infringement of Jean's photograph.
This is false. Ideas cannot be protected by copyright.

It has no originality.
This is false. Originality just means that it is not copy of another work.

It was made with a digital camera, and is therefore not fixed in a physical copy.
This is false. Digital forms are protected as tangible expression as they are capable of being perceived.

4. * What is the purpose of watermarking the image with the copyright notice?

Choose one of the following answers.

- ○ A requirement for registration at the Intellectual Property Office of Singapore
- ✔ ◉ Asserting copyright ownership of the image publicly
- ○ A requirement for the copyright to be valid under international copyright law
- ○ A formality required for copyright to attach to the image

The purpose is only to assert copyright ownership of the image publicly. All other options do not exist. Remember that copyright automatically attaches to a protectable work as soon as the work is created, as provided by the Copyright Act.

1. ***** Which of the following statements is true about the law of contracts?

Choose one of the following answers.

○ All contracts must be approved by a government official to be valid.

○ Contracts are valid only if a lawyer prepares them.

✔ ⦿ Contracts can be made verbally as well as in writing.

○ A person can be forced, against his/her will, to agree to a contract

All contracts must be approved by a government official to be valid.
This is false. Contracts are private agreements between parties, which do not require approval from government authorities. However, if you are contracting with a government authority, it may prescribe the FORM in which a contract is drafted.

A person can be forced, against his/her will, to agree to a contract
This is false. The law of contract provides that agreement to a contract is voluntary. If there is no voluntariness, a contract may be set aside/cancelled.

Contracts are valid only if a lawyer prepares them.
This is false. Lawyers are only involved if one or more of the parties wish for a lawyer to review the terms of the contract or its context for legal risk and clarity.

1. ***** What does the following statement from a social media platform Terms of Service mean?

"…you grant us a non-exclusive, perpetual, sub-licensable, royalty-free, worldwide license to use any IP content that you post…"

Choose one of the following answers.

○ The licensee is able to assign any content posted by the licensor.

○ The licensee is the only entity that can extensively use the content.

○ The licensee owns any content that is posted by the licensor on the platform.

✔ ⦿ The licensor remains the owner but grants the platform a very extensive scope of use for the licensed content.

Week 12

1. ***** What information is recorded in the blockchain of Bitcoin? Select all that apply.

Choose at least one answer.

✔ ☑ Nonce

✔ ☑ Timestamp

✔ ☑ Hash value of previous block

✔ ☑ Merkle tree root of transaction information

All of the above can be recorded as information in the blockchain of Bitcoin.

2. ***** Select all that apply to the following statement.
Blockchain technology is a public database or public ledger based on a combination of technologies including...

Choose at least one answer.

✔ ☑ Smart contract

✔ ☑ Peer-to-peer network communication

✔ ☑ Consensus protocols

✔ ☑ Cryptography

1. * Why is consortium chain useful in supply chain finance services? Select all that apply.

Choose at least one answer.

- ☐ Consortium chain can potentially replace the financial intermediary.
- ✔ ☑ The falsified contract makes it difficult to verify the trading relations and consortium chain can help to alleviate this problem.
- ✔ ☑ Consortium chain is best suited for organization collaborations.
- ✔ ☑ Supply chain finance requires coordination of multiple parties.

Consortium chain cannot replace financial intermediary.

Week 13

1. * Which of the following statement is NOT correct?

Choose one of the following answers.

- ○ Deep learning belongs to the family of Machine Learning.
- ✔ ○ Machine learning always needs labelled data for its training.
- ○ Supervised learning makes use of labelled data.
- ○ Unsupervised learning does not need labelled data.

1. * Which of the following is TRUE about deep learning?

Choose one of the following answers.

- ○ Deep learning is based on the concept of artificial neurons
- ○ Deep learning consists of multiple hidden layers of neural networks
- ○ Deep learning needs data to develop its algorithm
- ✔ ○ All of the above

1. * Which of the following describes how social media platforms make use of AI for product marketing?

Choose one of the following answers.

- ○ Monitoring the websites that you visit
- ○ Monitoring the items that you search
- ○ Monitoring your 'Likes'
- ✔ ○ All of the above

2. * Which one of the following will be most challenging to achieve with AI technology?

Choose one of the following answers.

- ○ Managing product inventory
- ○ Writing a poem
- ○ Monitoring engine condition
- ✖ ○ Predicting stock price

1. * Which could be the reason for using the AI technologies such as Deepfake?

Choose one of the following answers.

- ○ To influence stock price
- ○ To influence elections result
- ○ To undermine reputation of a product
- ✔ ○ All of the above