LECTURES ON ENGLISH FOR COMPUTER SCIENCE STUDENTS

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LEVEL II

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UNIT ONE

1.1 READING

Inferencing

Inferencing is a critical reading skill that allows readers to understand and comprehend texts more deeply. It involves using clues from the text, along with our own background knowledge, to make logical conclusions and predictions about what is happening in the story. In this lesson, we will explore the concept of inferencing and learn strategies for making inferences while reading. By the end of this lesson, you will be able to use inferencing to enhance your understanding of the texts you read.

What is inferencing?

Inferencing is the process of making logical conclusions based on the information provided in a text and our own background knowledge. Here are some examples of inferencing while reading:

- If a character in a story is described as having a red face, sweating, and breathing heavily, we might infer that the character is hot, tired, or has been exercising.
- If a story takes place in a desert and the characters are wearing heavy coats and scarves, we might infer that it is cold despite the location being a desert.
- If a character in a story receives a letter with a black border, we might infer that the letter contains bad news, such as news of a death.

These are just a few examples of how readers can use inferencing to make logical conclusions and predictions while reading. By using this skill, readers can gain a deeper understanding of the text and the characters' actions and motivations.

Tips for identifying inferencing while reading:

- **Pay attention to details:** Look for clues in the text that can help you make logical conclusions. These can include descriptions of characters' actions, emotions, and surroundings.

- **Use your background knowledge:** Use what you already know about the world and human behavior to help you make inferences. For example, if a character is described as having a red face and sweating, you might use your knowledge of human physiology to infer that the character is hot or embarrassed.

- **Ask questions:** As you read, ask yourself questions about what is happening in the story. For example, "Why did the character do that?" or "What might happen next?" These questions can help guide your inferencing.

- **Make predictions:** Use the information you have gathered from the text and your own background knowledge to make predictions about what might happen next in the story. These predictions can help you test and refine your inferencing skills.

Practice*:

Most people have heard of the Nobel Prizes. Some of the most talented people in the world receive these prizes, which honor great achievements in medicine, chemistry, and other fields. But not many people have heard of the Ig Nobel Prizes. The name is a pun on the word "ignoble." These prizes are given to people who do very strange work and whose studies might even be called a little goofy. The prizes were first given out in 1991, and they get more popular every year.

All the prize winners were serious about their work when they did it. It's just that the subjects they studied were a little odd. For example, one prize went to two scientists in Norway who discovered that sour cream makes leeches hungry. Another scientist studied toast because he wanted to know if it always lands butter side down when you drop it. Another prize went to the country of Liechtenstein for offering to rent the entire country out for weddings!

The Ig Nobel Prize ceremony is held at Harvard University in Massachusetts every October. Sometimes the people who receive the prizes aren't too happy about it, but usually they are good sports. Often they have to travel a very long way to get their prizes. When they receive them, they give a speech, but they can only speak for one minute. If they talk longer than that, they are booed.

The Ig Nobel Prizes are kind of silly, but they have a somewhat serious goal of trying to encourage real science. Above all, they prove that science can be fun. One winner came up with a new way for men to comb their hair. Another one studied how tadpoles taste when you eat them. No matter what the subject, these prizes show the lighter side of science.

Exercise 1. Choose the correct answer.

1. **You can tell from this passage that the word *ignoble* probably means _____.**
    a) not noble
    b) like a noble person
    c) very noble
    d) in a noble way

2. The third paragraph says that the people who receive an Ig Nobel Prize aren't always too happy about it. What is the most likely reason for that?
    a) They have to stop their important work to go to Harvard.
    b) They don't want to be photographed.

c) They are embarrassed because the prizes poke fun at them.

d) They are afraid someone will copy their work.

3. What is one thing that all the work done by these prize winners has in common?

a) It is extremely important.

b) It is meant to improve health.

c) It is all done by foreigners.

d) It is kind of silly.

Exercise 2. Answer the following questions.

1. The second paragraph mentions leeches. How can you tell from the paragraph that a leech is a kind of animal instead of a rock?

_____

2. Do you think most scientists would rather get a Nobel Prize or an Ig Nobel Prize? Tell why you think so.

_____

Read the following passage and answer the questions below.

AI eliminated nearly 4,000 jobs in May[*]

For those wondering when AI will start replacing human jobs, the answer is it already has.

Artificial intelligence contributed to nearly 4,000 job losses last month, according to data from Challenger, Gray & Christmas, as interest in the rapidly evolving technology's ability to perform advanced organizational tasks and lighten workloads has **intensified**.

The report released Thursday by the **outplacement** firm shows that **layoff** announcements from U.S.-based employers reached more than 80,000 in May — a 20% jump from the prior month and nearly four times the level for the same month last year. Of those cuts, AI was responsible for 3,900, or roughly 5% of all jobs lost, making it the seventh-highest contributor to employment losses in May cited by employers.

The job cuts come as businesses waste no time adopting advanced AI technology to automate a range of tasks — including creative work, such as writing, as well as administrative and **clerical** work. The AI industry is expected to grow to more than $1 trillion fueled by major technological advancements that became apparent last fall with the launch of OpenAI's ChatGPT bot, a report by Bloomberg Intelligence analysts shows.

• These jobs are most likely to be replaced by chatbots like ChatGPT

• ChatGPT bot passes law school exam

This is the first time AI was included on the Challenger report, but not the first time the rapidly advancing technology has made headlines for replacing humans.

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[*] Napolitano, E. (2023, June 2). AI eliminated nearly 4,000 jobs in May. CBS News. Adopted and retrieved from https://www.cbsnews.com/news/ai-job-losses-artificial-intelligence-challenger-report/. Accessed on July 31, 2023.

ChatGPT enters the newsroom

The Washington Post reported this week on two copywriters who lost their **livelihoods** because employers (or clients) decided that ChatGPT could perform the job at a cheaper price. Media companies such as CNET have already laid off reporters while using AI to write articles, which later had to be corrected for **plagiarism**. Earlier this year, an eating disorder helpline used a chatbot to replace human staff members who had unionized. It recently had to pull the plug on the bot after it gave people problematic dieting advice.

In March, investment bank Goldman Sachs predicted in a report that AI could eventually replace 300 million full-time jobs globally and affect nearly one-fifth of employment — with a particular hit to white-collar jobs often considered **automation-proof**, such as administrative and legal professions.

AI is also a concern in the TV and entertainment writers' strike that began in May, with writers demanding better pay and job security in addition to a near-total ban on the use of AI to produce written entertainment content.

But analysts note that as with previous technology that has replaced human workers, **generative AI** is already creating new jobs, and the **burgeoning** industry is just getting started.

"Generative AI is expected to become a monster employment generator because of estimates of a **mushrooming** $1.3 trillion AI market that will boost sales and ad spending for the Tech industry," Ben Emons, a principal at NewEdge Wealth, said Friday in a note.

Exercise 1. Skimming & Scanning Questions[**]

1. How many jobs did AI eliminate in May, according to the Challenger report?

a. 3,900

b. 4,000

c. 5,000

2. According to the report, what percentage of all jobs lost in May were due to AI?

a. 5%

b. 10%

c. 15%

3. Which job sector is most likely to be replaced by chatbots like ChatGPT?

a. Finance

b. Healthcare

c. Legal

What did Goldman Sachs predict about the impact of AI on global employment in a report released in March?

a. It could replace 300 million full-time jobs globally and affect nearly one-fifth of employment

b. It will not have a significant impact on employment

c. It will only affect low-skilled jobs

4. What is the estimated size of the AI market that will boost sales and ad spending for the tech industry, according to Ben Emons?

a. $1.3 trillion

b. $1.3 million

c. $1.3 billion

[**] Exercises and examples marked by double asterisks in this book are generated by ChatGPT 3.5.

5. **In what industry did the TV and entertainment writers' strike begin in May, with writers demanding a near-total ban on the use of AI to produce written entertainment content?**

a. Entertainment

b. Legal

c. Healthcare

Exercise 2. Careful Reading & Inferencing Questions**

1. **What is the significance of the Challenger, Gray & Christmas report mentioned in the article?**

a. A report on AI's impact on the job market

b. A report on the growth of the AI industry

c. A report on the use of chatbots in customer service

d. A report on the effects of automation on the economy

2. **How many jobs were lost in May, and what was the contribution of AI to those losses?**

a. 80,000 jobs lost, with AI responsible for 3,900 of them

b. 4,000 jobs lost, with AI responsible for 3,900 of them

c. 8,000 jobs lost, with AI responsible for 3,900 of them

d. 80,000 jobs lost, with AI responsible for 4,000 of them

3. **What types of tasks are businesses automating using AI technology?**

a. A range of tasks including creative, administrative, and clerical work

b. Only administrative and clerical work

c. Only creative work, such as writing

d. None of the above

4. What is the expected growth of the AI industry, and what technological advancements are fueling it?

a. $13 trillion, fueled by major technological advancements

b. $1 trillion, fueled by the use of chatbots in customer service

c. $1 billion, fueled by the launch of ChatGPT bot

d. $13 billion, fueled by automation of manufacturing processes

5. How has AI affected the job market in the media industry, and what are some examples of this?

a. AI has resulted in layoffs of reporters and copywriters.

b. AI has had no impact on the media industry job market

c. AI has created new job opportunities in the media industry

d. AI has only affected the advertising industry, not the media industry

6. What is the prediction of investment bank Goldman Sachs regarding the impact of AI on employment, and which types of jobs are likely to be affected the most?

a. AI could eventually replace 300 million full-time jobs globally, with a particular hit to white-collar jobs.

b. AI will have no significant impact on employment

c. AI will mainly affect blue-collar jobs, not white-collar jobs

d. AI will only affect jobs in the manufacturing industry, not other sectors

7. What is the concern of TV and entertainment writers regarding the use of AI in producing written content?

a. The use of AI will result in job losses for writers.

b. The use of AI will result in lower quality content

c. The use of AI will lead to increased competition in the industry

d. The use of AI will require additional training for writers

8. What is the positive outlook regarding generative AI, and what is expected to be its impact on employment?

a. Generative AI is already creating new jobs and is expected to be a "monster employment generator".

b. Generative AI will result in widespread unemployment

c. Generative AI will mainly affect low-skilled jobs, not high-skilled jobs

d. Generative AI will only be used in the manufacturing industry, not other sectors

9. What is the quote by Ben Emons, and how does it relate to the expected growth of the AI industry?

a. "Generative AI is expected to become a monster employment generator" - it predicts an increase in sales and ad spending in the tech industry.

b. "Generative AI will lead to widespread unemployment" - it predicts a decline in the tech industry

c. "Generative AI is a threat to the economy" - it predicts a recession in the tech industry

d. "Generative AI is irrelevant to the economy" - it predicts no impact on the tech industry

10. What is the implication of the article regarding the future of human employment in relation to the increasing use of AI technology?

a. AI will only affect certain types of jobs, not all of them.

b. AI will ultimately replace all human jobs

c. AI will create new job opportunities to replace those lost to automation

d. AI will have no impact on human employment in the long run

Exercise 3. Vocabulary Questions**

1. What does "outplacement" mean?

a. The process of finding a new job for someone who has been laid off

b. The process of firing someone with cause

c. The process of hiring new employees

2. What does "layoff" mean?

a. The termination of an employee's contract due to poor performance or misconduct

b. The temporary suspension of an employee's contract

c. The termination of an employee's contract due to a lack of work or funds

3. What does "automation-proof" mean?

a. A job that cannot be automated due to its complexity or importance

b. A job that is easy to automate and likely to be replaced by machines or software

c. A job that is not affected by automation

4. What does "plagiarism" mean?

a. The act of using someone else's work without giving proper credit

b. The act of creating original work without permission

c. The act of copying someone else's work and claiming it as one's own

5. What does "generative AI" mean?

a. AI that is capable of creating new content, such as writing or art

b. AI that can only follow pre-defined instructions without creativity

c. AI that mimics human-like conversation

6. What does "mushrooming" mean?

a. Growing or expanding rapidly

b. Shrinking or decreasing rapidly

c. Remaining stable or stagnant over time.

7. What does the word "intensified" mean in the context of the text?

a. Weakened

b. Strengthened

c. Reduced

8. What does the word "livelihoods" mean in the context of the text?

a. A person's means of supporting themselves financially

b. A person's hobbies or interests

c. A person's physical health

9. What does the word "burgeoning" mean in the context of the text?

a. Growing or increasing rapidly in size or importance

b. Shrinking or decreasing in size or importance

c. Staying constant or unchanged in size or importance

10. What does the word "clerical" mean in this context?

a. Related to manual labor.

b. Related to creative work.

c. Related to administrative work.

1.2 VOCABULARY

Tech support/Troubleshooting[*]

Designed to teach you the most up-to-date IT (information technology)-related words and expressions. This exercise is on the terminology relating to I.T. tech support and troubleshooting.

EXERCISE 1. CHOOSE THE CORRECT ANSWER.

(Remember: Although several of the responses may be acceptable, you should choose the best one)

1. I have to install a new (a. release - b. version - c. layout) of the anti-virus software.
2. One of your cables was (a. clean - b. disengaged - c. unplugged).
3. Your computer is (a. sick - b. infected - c. infiltrated) with a virus.
4. (a. Spyware - b. Software - c. Shareware) can gather data from a user's system without the user knowing it.
5. It is (a. illegal - b. illogical - c. legal) to download these programs. (= You are not allowed to download these programs.)
6. If you have any problems (a. confiscating - b. commending - c. configuring) the operating system, please let me know.
7. That program won't be able to open files with that (a. extension - b. expansion - c. extraction).
8. Please (a. reboot - b. re-initiate - c. rework) your computer.
9. I've (a. named - b. identified - c. inspected) the problem. (= I have found the source of the problem.)

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[*] This exercise is adopted and retrieved from: https://www.businessenglishsite.com/esl-it-tech-support1.html. Accessed on July 30, 2023.

10. It's not a major (a. subject - b. release - c. issue). = It's not a big problem.

Connectivity

EXERCISE 2. CHOOSE THE CORRECT ANSWER.**

1. The computer speakers come with a variety of _____ to enhance the sound quality.

a. extras   b. peripherals   c. externals

2. My laptop only has two USB _____ which is not enough for all my devices.

a. ports   b. doors   c. windows

3. The USB _____ allows you to connect multiple USB devices to your computer.

a. centre   b. point   c. hub

4. Fiber-optic cables provide _____ internet speeds compared to traditional copper cables.

a. wideband   b. broadband   c. longband

5. A _____ internet connection is essential for video streaming and online gaming.

a. quick-speed   b. fast-speed   c. high-speed

6. In the past, we had to use _____ to connect to the internet.

a. dial-up   b. phone-up   c. call-up

7. The Wi-Fi hotspot allows you to _____ your internet connection with your mobile devices.

a. divide   b. combine   c. share

8. The printer is too far away from the computer, so I need an _____ cable to connect them.

a. extended   b. extension   c. extender

9. I need _____ to connect my old printer to my new laptop.

a. an adaptor   b. a bridge   c. a connector

Bluetooth

data	**developed**	**devices**
enabled	**signals**	**wireless**
telecommunications		

EXERCISE 3. CHOOSE THE CORRECT ANSWER.**

1. The _____ industry has revolutionized the way we communicate and access information.

2. _____ charging pads allow you to charge your devices without having to plug them in.

3. The _____ on your phone allow you to send and receive messages, make calls, and browse the internet.

4. _____ headphones are becoming increasingly popular as they allow you to listen to music without being tethered to your device.

5. The _____ between your phone and the cell tower is what allows you to make calls and use data.

6. A _____ keyboard can help you type more efficiently and comfortably on your computer.

7. The _____ industry has developed rapidly over the past few decades, transforming the way we live and work.

Networks

LAN

intranet	**satellite**	**Local**	**server**	**log onto**
terminals	**network card**		**WAN (Wide Area Network)**	

EXERCISE 4. CHOOSE THE CORRECT ANSWER.**

1. To connect to a network, each device needs a _____ that allows it to communicate with other devices on the network.

2. A _____ is a private network that can only be accessed by authorized users within an organization.

3. _____ technology is used to transmit data over long distances by sending signals to and from orbiting satellites.

4. A _____ network is a network that spans a large geographic area, such as a city, country, or even the world.

5. A _____ allows you to connect multiple devices within a small area, such as a home or office.

6. Network _____ can take many forms, including desktop computers, laptops, tablets, and smartphones.

7. A _____ is a collection of interconnected devices that can communicate with one another.

8. To access a network, users must _____ the network using their credentials, such as a username and password.

9. A _____ is a computer or device that provides data or services to other devices on a network.

10. A _____ network is a network that is confined to a single building or location.

1.3 GRAMMAR

Adjectives and adverbs[*]

➢ *Adjectives* and *adverbs* are words that describe or modify other words in a sentence. **Adjectives** describe <u>nouns or pronouns</u>, while **adverbs** describe <u>verbs</u>, <u>adjectives</u>, or other <u>adverbs</u>.

Good is an <u>adjective</u>, while *well* is an <u>adverb</u> used to describe verbs.

For example, "Your English is *good*," but "You speak English *well*."

Well is also used as an **adjective** to describe <u>being in good health</u>.

For example, "I don't feel *well*."

Fast, *hard*, and *late* can be both adjectives and adverbs.

Used as Adjectives	Used as Adverbs
Darren is a *fast* runner.	Darren can run *fast*.
Kate works *hard*.	It's *hard* to find a job right now.
Sorry I'm *late*.	I got up *late*.

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[*] Explanations, examples, and exercises in the grammar section in this book are mostly generated by the authors relying on their academic and general knowledge. If any of these parts is adapted or adopted from a particular book or website, the source is mentioned in a footnote and added to the reference list at the end of the book.

NOTE:

Lately = recently

Lately, I've been trying to exercise more and eat healthier.

➢ *Hardly* means "*very little*, *almost not*" and is **used before the verb**.

For example,

"She *hardly* spoke to me."

"We *hardly* know each other."

➢ *Hardly* can also be used with *any/anybody/anyone/anything/anywhere*.

For example,

"There's *hardly any difference* between them."

"*Hardly anybody* in our class passed."

➢ *Hardly* can also mean "*certainly not*"

For example,

"It's *hardly* surprising that you're tired."

"The situation is serious, but it's *hardly* a crisis."

➢ *Hardly ever* means "almost never."

For example, "I *hardly ever* go out."

Exercises

Exercise 1. Put in *good* or *well*.**

1. She is a _____ singer and always gets compliments on her performances.
2. He doesn't speak English _____ enough to have a conversation.
3. The soup tastes _____ with a little bit of salt.
4. I don't feel _____ today, I think I'm coming down with something.
5. He did _____ in the math test, he got an A+.
6. The team played _____ and won the game.
7. My sister cooks _____ and always makes delicious meals.
8. She is _____ at playing the piano and can play any song by ear.

Exercise 2. Complete these sentences using well + the following words:**

Dressed	educated	mannered	maintained
	organized	spoken	

1. She always looks very put together. She is very _____.
2. He has a degree from a prestigious university. He is very _____.
3. The party was very classy. Everyone was _____ and polite.
4. The house is always clean and tidy. It is very _____.
5. The meeting went smoothly and efficiently. It was very _____.
6. She is very articulate and persuasive. She _____ in public very well.

Exercise 3. Choose the correct word, "hard" or "hardly", to complete each sentence.**

1. She worked _____ to finish the project on time.

2. He _____ recognized me with his new haircut.

3. The test was _____ difficult, but I think I did well.

4. She could _____ wait to see her family after being away for so long.

5. He tried _____ to lift the heavy box, but it was too much for him.

6. They _____ had any food left in the fridge, so they ordered pizza for dinner.

7. He couldn't believe how _____ his car was hit by the other driver.

8. The company _____ made a profit last year, despite the pandemic affecting sales.

9. She _____ knew the answer to the question but didn't want to speak up.

Exercise 4. Complete the sentences. Use hardly + the following verbs (in the correct form). Use the appropriate tense.**

believe   have   eat   see   understand   work   write

1. I've been so busy lately that I _____time to relax.

2. She's been on a strict diet and _____ anything with sugar in it.

3. The movie was so dark that I _____ what was happening half the time.

4. He's been studying for weeks, but he still _____ the material.

5. The company has been struggling financially and _____ to cut costs.

6. She's been trying to finish her novel for months, but she _____ more than a few pages at a time.

7. I can_____ that it's already time to go home. The day has gone by so quickly.

Exercise 5. Complete these sentences with hardly + any/anybody/ anything/ anywhere/ ever.**

1. We looked _____ for the missing book, but we just couldn't find it.
2. _____ showed up to the party.
3. There is _____ food left in the fridge.
4. She didn't say _____ during the meeting.
5. _____ knows how to operate this machine.
6. He _____ reads books, preferring to watch movies instead.
7. I looked _____ for my lost keys, but still couldn't find them.
8. There are _____ people on the beach today.
9. She _____ goes to the gym, but still manages to stay in shape.
10. He _____ ate _____ at dinner last night.

The following section discusses the use of adjectives and adverbs as modifiers in English grammar. It explores the different ways in which adjectives and adverbs can be used to describe a subject and the rules for their placement in a sentence. It also highlights some common mistakes to avoid when using adjectives and adverbs. By the end of this lesson, you should have a better understanding of how to use these modifiers correctly in your writing and communication.

Examples of Adjectives as modifiers:

This is a *sweet* <u>cat</u>.

<u>She</u> is *generous*.

Examples of Adverbs as Modifiers

He <u>plays</u> piano *beautifully*.

I am *terribly* <u>sorry</u>.

He runs *incredibly* <u>fast</u>.

➢ Many adverbs are formed by adding **-ly** to an adjective, but not all words that end in **-ly** are adverbs. Some **adjectives** also end in -ly, such as *friendly*, *lively*, *elderly*, *lonely*, and *lovely*.

➢ We use **adjectives after some verbs** (such as *be*, *look*, *feel*, and *sound*) to describe the subject.

For example, "She is a *friendly* person."

➢ **Adjectives come before nouns**, while **adverbs come after the verb or adjectives** they modify.

For example,

"He <u>drove</u> *carefully*" (adverb modifying verb)

"She is a *careful* <u>driver</u>" (adjective modifying noun).

➢ **Adverbs** can also be used **before adjectives or other adverbs**.

For example,

"The food is *extremely* <u>good</u>" (adverb modifying adjective)

" She spoke *incredibly* <u>softly</u>." (adverb modifying adverb).

➤ It's important to use the correct form of the word (adjective or adverb) to avoid grammatical errors.

For example,

"She speaks English perfectly" (adverb modifying verb + noun) ✅

OR

"She speaks perfect English." ✅

"She speaks English perfect." (Incorrect use of adjective) ❌

"She speaks perfectly English." ❌

Exercises

Exercise 6. Complete each sentence with an adverb. The first letters of the adverb are given.**

1. The children played together **ha_____** in the park.

2. She sings **bea_____** and can play the guitar **ski_____**.

3. The waiter served us **pro_____** and **eff_____**.

4. She writes **cre_____** .

5. He worked **tir_____** to finish the project on time and within budget.

   We arrived at the airport early, so we had to wait **imp_____** for our flight.

6. She always does her work **car_____**.

7. He drove his car **rec_____** down the street, putting other drivers in danger.

8. She walked **qu_____** down the hallway so as not to wake up her sleeping child.

9. He speaks English **fl_____**, but he still needs to work on his pronunciation.

Exercise 7. Put in the correct word.**

1. The _____ (slow/slowly) train stopped at every station.
2. He ran _____ (fast/fastly) to catch the bus.
3. The _____ (clear/clearly) instructions helped me to complete the task.
4. The coffee smells _____ (strong/strongly).
5. The _____ (bad/badly) smell was coming from the garbage.
6. They were _____ (happy/happily) to see each other.
7. He speaks _____ (clear/clearly) and _____ (concise/concisely).
8. The _____ (fast/fastly) car drove down the road.
9. She sings _____ (beautiful/beautifully).
10. The _____ (loud/loudly) music could be heard from outside.

Exercise 8. Complete each sentence using a word from the box. Sometimes you need the adjective (*careful* etc.) and sometimes the adverb (*carefully* etc.).**

careful(ly)	complete(ly)	dangerous(ly)	financial(ly)
fluent(ly)	frequent(ly)	nervous(ly)	perfect(ly)
	permanent(ly) special(ly)		

1. She felt _____ before giving her speech in front of a large audience.
2. The train runs _____ between the two cities.
3. The tattoo is _____ and cannot be removed.
4. The company is facing _____ difficulties due to the economic downturn.
5. He speaks Spanish _____, with hardly any accent.

6. The cake turned out _____, with the perfect balance of sweetness and flavor.

7. The worker was injured _____ while operating heavy machinery.

8. The restaurant has a _____ menu for customers with dietary restrictions.

9. He drives _____ to avoid accidents.

10. She cleaned the house _____ before the guests arrived.

Exercise 9. Choose two words (one from each box) to complete each sentence. Some words can be used more than once.**

| Incredibly terribly eagerly |
| so completely pleasantly |
| really happily |

| interesting dangerous |
| surprised loud married |
| dangerous terrible boring |

1. The movie was _____, and I regretted watching it.

2. The road was _____ and full of potholes.

3. The road was _____ and full of potholes.

4. The book was so _____ that I couldn't put it down.

5. He was _____ to see his old friend after many years.

6. The movie was _____, and I fell asleep halfway through.

7. She was _____ to hear the news about her promotion.

8. The classroom was _____ that I couldn't concentrate on my work.

1.4   WRITING

WRITING A COVER LETTER

A cover letter is a one-page document that accompanies a job seeker's resume or curriculum vitae (CV). It is typically sent to potential employers along with the resume and serves as an introduction to the applicant, highlighting their qualifications and interest in the position.

Main Parts of a Cover Letter:

1   **Header**: Includes the applicant's contact information and the date of the application.
2   **Salutation**: Addresses the hiring manager or recruiter by name, if known.
3   **Introduction**: Expresses the applicant's interest in the position and briefly summarizes their relevant qualifications.
4   **Body**: Provides more detail about the applicant's skills and experiences, specifically how they align with the requirements of the job.
5   **Closing**: Concludes the letter with a call to action, such as requesting an interview, and expresses gratitude for the reader's time.

How to Write a Cover Letter in Points:

- Start with a strong opening that hooks the reader's attention and shows enthusiasm for the job.
- Tailor the letter to the specific job and company, using language and keywords from the job description.
- Focus on the applicant's experiences and skills that are most relevant to the job.
- Use specific examples and metrics to demonstrate the applicant's qualifications.
- Keep the letter concise and to the point, avoiding unnecessary information or repetition.
- End with a clear call to action and thank the reader for their time.

Tips for a Better Cover Letter:

- Research the company and the job before writing the letter to understand the company culture and what the employer is looking for.
- Address the letter to a specific person if possible, rather than using a generic salutation.
- Use a professional tone and avoid using slang or informal language.
- Proofread the letter carefully for grammar and spelling errors.
- Keep the format simple and easy to read, using standard fonts and margins.

Presentation of the Cover Letter with the CV:

The cover letter should be submitted with the CV as a single document, usually in the form of a PDF file. The cover letter should be the first page of the document, followed by the CV. Both documents should be formatted consistently, using the same fonts and styles, to create a cohesive and professional package.

Sample Cover Letter for Someone Applying to Work as a Programmer:[*]

<div style="border:1px solid black; padding:10px">

John Donaldson

8 Sue Circle, Smithtown, CA 08067 · 909-555-5555 · john.donaldson@email.com

September 6, 2022

George Gilhooley

LTC Company

87 Delaware Road

Hatfield, CA 08065

Dear Mr. Gilhooley,

I am writing to apply for the programmer position advertised in the Times Union. As requested, I enclose my certification, resume, and references.

The role is very appealing to me, and I believe that my strong technical experience and education make me a highly competitive candidate for this position. My key strengths that would support my success in this position include:

• I have successfully designed, developed, and supported live-use applications.

• I strive continually for excellence.

• I provide exceptional contributions to customer service for all customers.

With a BS degree in computer programming, I have a comprehensive understanding of the full lifecycle of software development projects. I also have experience in learning and applying new technologies as appropriate. Please see my resume for additional information on my experience.

</div>

[*] Sample cover letter is generated by ChatGPT 3.5 and modified by the author.

I can be reached anytime via email at john.donaldson@email.com or by phone at 909-555-5555.

Thank you for your time and consideration. I look forward to speaking with you about this employment opportunity.

Sincerely,

Signature (hard copy letter)

John Donaldson

Exercise 1. Find the missing words in this cover letter.*

<div align="right">

Akiko Tanaka

52 Orchard Street

London

W2 3BT

Mobile: 07960 999999

E-mail: akiko9999@hotmail.com

</div>

Fortnum & Mason's

181 Piccadilly

London

W1A 1ER

<div align="right">3 August 20__</div>

Dear Sir/Madam,

Re: Job as a part-time sales assistant (reference: JBW5014)

I would like to (1)_____ for the job of part-time sales assistant in the food section of Fortnum & Mason's in Piccadilly, as (2)_____ in "Recruit Now" on 2 August. Please find (3)_____ a copy of my CV.

My previous jobs include two years as a sales (4)_____ in an organic food shop in Japan. This has given me (5) _____ of dealing with customers, as well as cashier skills and a basic (6) _____ of food retailing.

I have been living in London (7) _____ last September and am currently studying English at a (8) _____ school. I have good English communication skills (recently I passed the Cambridge First Certificate in English exam). My fluency in Japanese may be useful when (9) _____ with your Japanese customers. I am an enthusiastic worker and enjoy (10)

_____ in a team. My student visa (11) _____ me to work up to 20 hours per week (or longer during my school holidays), and I could (12) _____ work immediately.

I would welcome the opportunity to (13) _____the job vacancy with you on the telephone or at an (14) _____. I can be contacted most easily on my (15) _____ telephone or by e-mail (see details at the top of this letter).

Yours faithfully,

UNIT TWO

2.1   READING

Ethical concerns mount as AI takes bigger decision-making role in more industries[*]

For decades, artificial intelligence, or AI, was the engine of high-level STEM research. Most consumers became aware of the technology's power and potential through internet platforms like Google and Facebook, and retailer Amazon. Today, AI is essential across a vast array of industries, including health care, banking, retail, and manufacturing.

But its **game-changing** promise to do things like improve efficiency, bring down costs, and accelerate research and development has been tempered of late with worries that these **complex**, opaque systems may do more societal harm than economic good. With virtually no U.S. government oversight, private companies use AI software to make **determinations** about health and medicine, employment, creditworthiness, and even criminal justice without having to answer for how they're ensuring that programs aren't encoded, consciously or unconsciously, with **structural biases**.

Its growing appeal and utility are undeniable. Worldwide business spending on AI is expected to hit $50 billion this year and $110 billion annually by 2024, even after the global economic slump caused by the COVID-19 pandemic, according to a forecast released in August by technology research firm IDC. Retail and banking industries spent the most this year, at more than $5 billion each. The company expects the media industry and federal and central governments will invest most heavily between 2018 and 2023 and predicts that AI will be "the disrupting influence changing entire industries over the next decade."

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[*] Text is adopted and retrieved from: https://news.harvard.edu/gazette/story/2020/10/ethical-concerns-mount-as-ai-takes-bigger-decision-making-role/. Accessed on June 30, 2023.

"Virtually every big company now has multiple AI systems and counts the deployment of AI as integral to their strategy," said Joseph Fuller, professor of management practice at Harvard Business School, who co-leads Managing the Future of Work, a research project that studies, in part, the development and implementation of AI, including machine learning, robotics, sensors, and industrial automation, in business and the work world.

Early on, it was popularly assumed that the future of AI would involve the automation of simple repetitive tasks requiring low-level decision-making. But AI has rapidly grown in **sophistication**, owing to more powerful computers and the compilation of huge data sets. One branch, machine learning, notable for its ability to sort and analyze massive amounts of data and to learn over time, has transformed countless fields, including education.

Firms now use AI to manage sourcing of materials and products from suppliers and to integrate vast **troves** of information to aid in strategic decision-making, and because of its capacity to process data so quickly, AI tools are helping to minimize time in the pricey trial-and-error of product development — a critical advance for an industry like pharmaceuticals, where it costs $1 billion to bring a new pill to market, Fuller said.

Health care experts see many possible uses for AI, including with billing and processing necessary paperwork. And medical professionals expect that the biggest, most **immediate impact** will be in analysis of data, imaging, and diagnosis. Imagine, they say, having the ability to bring all of the medical knowledge available on a disease to any given treatment decision.

In employment, AI software **culls** and processes resumes and analyzes job interviewees' voice and facial expressions in hiring and driving the growth of what's known as "hybrid" jobs. Rather than replacing employees, AI takes on important **technical tasks** of their work, like routing for package delivery trucks, which potentially frees workers to

focus on other responsibilities, making them more productive and therefore more valuable to employers.

"It's allowing them to do more stuff better, or to make fewer errors, or to capture their expertise and disseminate it more effectively in the organization," said Fuller, who has studied the effects and **attitudes** of workers who have lost or are likeliest to lose their jobs to AI.

Exercise 1. Skimming & Scanning Questions**

1. Which industries are expected to invest most heavily in AI between 2018 and 2023, according to IDC's forecast?

a. Retail and banking

b. Media and federal governments

c. Healthcare and pharmaceuticals

d. Manufacturing and industrial automation

2. What is the primary concern with the use of AI in decision-making?

a. Lack of government oversight

b. The high cost of implementation

c. The complexity of the technology

d. The potential for job loss

3. What is machine learning notable for?

a. Its ability to automate simple, repetitive tasks

b. Its capacity to process data quickly

c. Its ability to make high-level decisions

d. Its low cost of implementation

4. What is the potential impact of AI in healthcare?

a. Improved billing and paperwork processing

b. Analysis of data, imaging, and diagnosis

c. Automation of simple tasks

d. Reduction in healthcare costs

5. What is the potential benefit of AI in employment?

a. Replacing workers with automation

b. Reducing the need for human decision-making

c. Allowing workers to focus on other responsibilities

d. Decreasing worker productivity

6. What is the purpose of AI in product development?

a. To eliminate the need for testing

b. To accelerate the trial-and-error process

c. To minimize the cost of development

d. To improve the quality of products

7. What is the current level of government oversight of AI in the US?

a. Extensive oversight is in place

b. There is no government oversight

c. Oversight is limited to certain industries

d. Oversight is primarily focused on healthcare

8. What is the expected worldwide business spending on AI in 2024, according to IDC's forecast?

a. $5 billion

b. $50 billion

c. $110 billion

d. $1 trillion

9. What is the potential impact of AI on the pharmaceutical industry?

a. Reduction in trial-and-error costs

b. Automation of all drug development processes

c. Elimination of the need for clinical trials

d. Decrease in the time required for FDA approval

10. What is the goal of "hybrid" jobs as enabled by AI?

a. To replace human workers with automation

b. To eliminate the need for technical skills in the workforce

c. To allow workers to focus on non-technical responsibilities

d. To increase the value of workers to employers.

Exercise 2. Careful Reading & Inferencing Questions**

1. What is the main concern about AI that is addressed in the passage?

a. Its potential to improve efficiency and bring down costs

b. Its ability to accelerate research and development

c. Its potential to have structural biases and cause societal harm

2. According to a forecast by IDC, what is the expected worldwide business spending on AI by 2024?

a. $50 billion

b. $110 billion annually

c. $5 billion each in retail and banking industries

3. What is the focus of the research project, Managing the Future of Work?

a. The automation of simple repetitive tasks

b. The development and implementation of AI, including machine learning, robotics, sensors, and industrial automation, in business and the work world

c. The integration of vast troves of information to aid in strategic decision-making

4. Which branch of AI is notable for its ability to sort and analyze massive amounts of data and to learn over time?

a. Robotics

b. Sensors

c. Machine learning

5. What is the biggest potential impact of AI in the field of healthcare?

a. Billing and processing necessary paperwork

b. Analysis of data, imaging, and diagnosis

c. Integration of vast troves of information to aid in strategic decision-making

6. How is AI transforming employment?

a. By replacing employees with automation

b. By taking on important technical tasks of their work, making them more productive and therefore more valuable to employers

c. By routing for package delivery trucks

7. What is the term used for jobs in which AI takes on important technical tasks of employees' work?

a. Hybrid jobs

b. Technical jobs

c. Managerial jobs

8. What is the potential benefit of AI taking on important technical tasks of employees' work?

a. To replace employees with automation

b. To make employees more productive and therefore more valuable to employers

c. To reduce the workload of employees

9. What is the critical advance that AI tools are helping to minimize in product development for the pharmaceutical industry?

a. Time in the pricey trial-and-error of product development

b. Sourcing of materials and products from suppliers

c. Integration of vast troves of information to aid in strategic decision-making

10. What is the potential benefit of AI analyzing job interviewees' voice and facial expressions in hiring?

a. To make the hiring process more efficient

b. To reduce the workload of human recruiters

c. To identify important qualities in job candidates

Exercise 3. Vocabulary Questions**

1. Which of the following is a synonym for "game-changing" in the context of AI technology?

   a. Revolutionary

   b. Incremental

   c. Insignificant

2. Which of the following is another word for "complex" as used to describe AI systems?

   a. Simple

   b. Complicated

   c. Uncomplicated

3. Which of the following is a synonym for "determinations" when referring to AI software making decisions?

   a. Conclusions

b. Guesses

c. Suppositions

4. **Which of the following is an alternative term for "structural biases" in relation to AI programming?**

   a. Systemic preferences

   b. Inherent inequities

   c. Fundamental fairness

5. **Which of the following is another word for "sophistication" in reference to the development of AI technology?**

   a. Complexity

   b. Simplicity

   c. Naivety

6. **Which of the following is a synonym for "troves" when describing the vast amounts of information that AI can process?**

   a. Stashes

   b. Dumps

   c. Hoards

7. **Which of the following is an alternative term for "immediate impact" when discussing the potential of AI in healthcare?**

   a. Short-term effects

   b. Delayed ramifications

   c. Long-term benefits

8. **Which of the following is another word for "culls" when referring to AI software processing resumes?**

   a. Discards

   b. Keeps

   c. Rescues

9. Which of the following is a synonym for "technical tasks" in relation to AI taking on aspects of employees' work?

a. Non-technical responsibilities

b. Non-technical tasks

c. Nontechnical duties

10. Which of the following is an alternative term for "attitudes" when discussing the effects of AI on workers?

a. Dispositions

b. Behaviors

c. Traits

2.2   VOCABULARY

Social media/social networking (common terms)[*]

Exercise 1. Choose the correct response to complete each of the following sentences:

1. Many social networking sites like Facebook, Twitter, etc. help people (a. bend - b. band - c. bond) together (= get connected, become part of the same group) online.

2. Twitter has implemented (a. timely - b. faster-than-light - c. real-time) search functionality, so that someone can find information as soon as it is posted on the network.

3. Twitter recently (a. positioned - b. purged - c. paced) (= got rid of) a lot of spam accounts.

4. The site now allows you to save (a. multiple - b. massive - c. multiplied) maps.

5. A "friend (a. request - b. network - c. addition)" is something you send to someone asking them to join your network of friends.

6. The account has been (a. disassembled - b. dismissed - c. deactivated). = The account is currently not active.

7. On most social networking sites, you can (a. post - b. make - c. raise) videos to your page. (= upload and show videos on your page)

8. Facebook recently launched a mobile (a. platform - b. zone - c. copy).

9. A lot of people find Facebook's applications and quizzes (a. derogatory - b. annoying - c. nervous).

10. A (a. captive - b. capture - c. caption) is basically a line of text, like a sentence, etc.

---

11. Facebook has a (a. user-driven - b. user-friendly - c. user-specific) translation program. (= one that is created/developed by users)

(a. Killer - b. Faster-than-light - c. Real-time) features = great/amazing features

12. This application is still in (a. transition - b. transit - c. beta). (= still being worked on/tested)

13. It just doesn't (a. stock up - b. stack up - c. stake out) to the competition. = It's just not as good as the competition.

14. They recently implemented multi-account (a. request - b. assistance - c. support). (= the ability to use/control more than one account)

15. The site offers a lot of advanced (a. options - b. traits - c. workings) (= functionality) to its members.

16. Social networking sites often look for ways to create a (a. richer - b. more eccentric - c. more involved) (= better, fuller) experience for their visitors.

17. Facebook and Twitter can easily (a. interest - b. intersect - c. integrate) (= connect, share information, etc.) with other websites.

18. I don't want everyone to be able to (a. assess - b. access - c. assume) (= find) this information.

19. I haven't (a. uploaded - b. updated - c. up-ended) (= changed) my status in weeks.

2.3 GRAMMAR

The Subjunctive in Noun Clauses

When constructing sentences that emphasize urgency or importance, the subjunctive verb is often used. This type of verb is in its simple form and does not have the usual present, past, or future forms, nor does it have singular or plural forms. The *that-clause*, which includes certain verbs and expressions listed below, is where the subjunctive verb is used.

Negative form: not + simple form.

Example: I <u>suggest(ed) that</u> she ***not watch*** horror movies

Passive form: simple form of be + past participle.

Example: <u>It is crucial that</u> he ***be treated*** abroad.

Examples:

(a) The manager <u>demanded that</u> **they be** on time for the meeting.

(b) The customer <u>insisted that</u> **he reduce** the price of the product.

(c) The doctor <u>recommended that</u> **he avoid** eating spicy food.

(d) <u>It's crucial that</u> **we be prepared** for the upcoming presentation.

(e) The teacher <u>suggested that</u> **they study** more for the exam.

(f) The counselor <u>recommended that</u> **the patient seek** therapy to deal with their depression.

Common verbs and expressions followed by the subjunctive in a noun clause

advise (that)	ask (that)	demand (that)
insist (that)	propose (that)	recommend (that)
request (that)	suggest (that)	it is essential (that)
it is imperative (that)	it is important (that)	it is critical (that)
it is necessary (that)	it is vital (that)	

EXERCISES

Exercise 1. Complete each sentence with the correct form of the verb in parentheses.**

1. The coach suggested that the team (practice/practices) more to improve their skills.
2. It is essential that he (is/ be) present at the meeting.
3. The boss demanded that the workers (finish/finishes) the project on time.
4. The counselor suggested that the client (seeks/seek) therapy to address their issues.
5. It is important that the committee (reviews/review) all the applications carefully before making a decision.
6. It is necessary that she (finds/find) a new job soon.
7. The teacher insisted that the students (do/does) their homework every day.
8. The doctor advised that he (takes/take) the medication as prescribed.
9. It is crucial that everyone (is/ be) on time for the meeting.
10. The manager requested that the employees (submit/submits) their reports by Friday.

11. It is important that they (discuss/discusses) the matter with their lawyer before making any decisions.

12. The doctor recommended that the patient (takes/take) the medicine as directed.

13. The teacher suggested that the students (form/forms) study groups to help each other.

14. It is necessary that the students (study/studies) for the exam.

15. It is important that the employees (attend/attends) the training session next week.

16. The company asks that all employees (are/ be) their work professionally and responsibly.

17. It is necessary that the students (are/ be) respectful to their teachers and classmates.

18. The teacher asks that all students (are/ be) their homework on time.

19. It is crucial that he (understands/understand) the importance of time management.

20. The therapist suggested that he (practice/practices) deep breathing exercises to reduce stress.

21. It is essential that everyone (attends/attend) the safety briefing before starting work.

22. The financial advisor advises that she (invests/invest) in a diversified portfolio to minimize risk.

23. It is important that the team (communicate/communicates) effectively to avoid misunderstandings.

24. The travel agent advises that they (book/books) their flights early to get the best prices.

25. It is recommended that the issue (be addressed/address) by the committee.

26. The doctor suggested that the medication (be taken/take) as directed.

27. It is important that the safety regulations (be followed/follow) at all times.

28. The manager requested that all reports (be submitted/submit) by the deadline.

29. It is necessary that the budget (be approved/approve) by the finance committee.

30. The therapist recommended that the patient's concerns (be listened to/listen to) with empathy.

31. It is essential that all employees (be trained/train) on the new software system.

32. The lawyer advised that legal counsel (be sought/seek) before signing any contracts.

33. It is crucial that the project (be completed/complete) on time and within budget.

34. The teacher insisted that the homework (be done/do) every day.

Exercise 2. Complete each sentence with the correct form of the verb. Use the words in the box. Some are active and some are passive. **

Healthy Habits

sleep   avoid   exercise   drink   eat   meditate

1. It is important that everyone _____ a balanced diet to maintain good health.

2. It is critical that everyone _____ enough water to stay hydrated.

3. It is vital that people not _____ alcohol or other substances excessively.

4. It is important that people _____ regularly to keep their bodies and minds healthy.

5. It is important that everyone _____ to manage stress and maintain mental well-being.

6. It is imperative that people _____ enough to allow their bodies to rest and recover.

7. It is recommended that people _____ processed and junk food to reduce health risks.

2.4   WRITING

CV WRITING

A Curriculum Vitae (CV) is a document that summarizes a person's education, qualifications, and work experience. It is typically used to apply for academic positions, research opportunities, or jobs in certain industries. A well-written CV can showcase a person's skills and achievements, making them stand out to potential employers or recruiters. However, writing a CV can be a daunting task, especially if you are unsure about what information to include or how to format it. In this context, understanding the basic principles of CV writing can help you create a compelling and effective CV.

WHAT'S THE DIFFERENCE BETWEEN A CV AND A RESUMÉ?

Aspects	Curriculum Vitae (CV)	Resumé
Length	Generally longer, can span several pages.	Usually one or two pages.
Personal Information	A summary of your educational and academic backgrounds as well as teaching and research experience, publications, presentations, awards, honors, affiliations and other details.	A one- or two-page summary of your skills, experience and education.
References	Often includes a list of references or recommendations	Typically does not include a list of references.
Audience	Typically used in academic, research, medical, and scientific fields	Typically used in business, industry, technical, and professional fields

6 TIPS FOR BETTER CV WRITING

The following are five simple writing principles that apply specifically to CVs. All of them should come in handy when you begin to string words together in your CV, particularly when the time comes to describe your work history.

1. WRITE AN OBJECTIVE

Objectives are an important element of a CV, as they provide a brief summary of the applicant's career goals and what they hope to achieve in their next role. When writing an objective, it's important to be **specific** and **tailor** it to the job you're applying for.

To write an effective objective, consider the following tips:

- **Research the company and the job**: Before writing your objective, research the company and the job you're applying for. This will help you understand the company's values and the specific requirements of the job.
- **Be specific**: Your objective should be specific and tailored to the job you're applying for. Avoid using generic statements that could apply to any job.
- **Highlight your skills and experience**: Your objective should highlight your skills and experience that are relevant to the job you're applying for. This will help the employer understand how you can contribute to their organization.
- **Keep it concise**: Your objective should be brief and to the point. Avoid using long, wordy sentences that could bore the employer.

Instead of this: "To obtain a challenging position in computer science where I can utilize my skills and knowledge to contribute to the growth of the company."

Write this: "To secure a software developer position at [company name] where I can apply my experience in Java and Python to develop innovative software solutions and collaborate with cross-functional teams for successful project delivery."

Explanation:

The wrong objective is too generic and could apply to any computer science job. It also does not provide specific information about the applicant's skills or the company they are applying to. The corrected objective is specific to the job the applicant is applying for and highlights their experience and skills that are relevant to the job. It also mentions the company by name, which shows that the applicant has done their research and is genuinely interested in the position. The corrected objective is also brief and to the point, making it easier for the employer to read and understand.

It's also important to note that one CV cannot be made for different jobs. Each job is unique, and therefore requires a unique CV that is tailored to the specific requirements of the job. This means that you should customize your CV for each job you apply for, highlighting the skills and experience that are most relevant to the job. By tailoring your CV to each job, you increase your chances of being selected for an interview and ultimately getting the job you want.

2.   AVOID THE FIRST-PERSON PRONOUN

The first-person pronoun "I" is unnecessary in a CV, as it is already understood that the applicant is talking about themselves. By removing "I am" from the sentence, it becomes more concise and to the point.

Instead of this: "I am a skilled software developer with experience in Java and Python."

Write this: "Skilled software developer with experience in Java and Python."

3. KEEP YOUR SENTENCES SHORT AND DON'T WORRY ABOUT FRAGMENTS

The original sentence is long and wordy, making it difficult to read and understand quickly. By breaking the sentence into shorter, more concise statements, the information becomes easier to digest. Additionally, fragments are acceptable in a CV as long as they convey the necessary information.

Instead of this: "In my previous role as a software developer, I was responsible for the design, development, testing, and deployment of web applications using various programming languages such as Java, Python, and PHP. I also worked collaboratively with cross-functional teams to ensure the successful delivery of projects."

Write this:

Designed, developed, tested, and deployed web applications using Java, Python, and PHP

Collaborated with cross-functional teams for successful project delivery

4. USE PLAIN ENGLISH

The original sentence uses unnecessarily complex language, which can make it difficult to understand. By simplifying the language, the sentence becomes clearer and easier to read.

Instead of this: "I am a proficient technologist with a comprehensive understanding of software engineering principles and practices."

Write this: "Proficient technologist with understanding of software engineering principles and practices."

5. USE BULLET STATEMENTS WHEN APPROPRIATE

Using bullet points makes the information easier to read and allows the reader to quickly identify key skills and achievements. The original sentence is too long and lacks clarity.

Instead of this: "In my previous role as a software engineer, I worked on various projects, including web development, database management, and mobile app development."

Write this:
- Developed web applications using React and Node.js
- Managed databases using MySQL and MongoDB
- Developed mobile apps using React Native

6. GO FROM GENERAL TO SPECIFIC

By going from general to specific, the information becomes more detailed and provides a clearer picture of the applicant's skills and experience.
Instead of this: "Experience in software development."

Write this:
- Experience in full-stack web development using React and Node.js
- Experience in database management using MySQL and MongoDB
- Experience in mobile app development using React Native

Exercise 1. Find and correct the errors in the following CV.[*]

John Doe
123 Main Street
Anytown, USA 12345
555-555-5555
johndoe@email.com

Objective:

My objective is to obtain a challenging position in computer science where I can utilize my skills and knowledge to contribute to the growth of the company.

Education:

I earned a Bachelor of Science in Computer Engineering from XYZ University, where I achieved a GPA of 3.2/4.0. My coursework included algorithms, data structures, and computer networks.

Experience:

I have been working as a software developer at ABC Company for over three years, since June 2018. During this time, I have worked on various software development projects using programming languages such as Java, Python, and Ruby. Over the past three years, I have collaborated with cross-functional teams to ensure successful project delivery. Additionally, I have developed web applications using React and Node.js, managed databases using MySQL and MongoDB, and developed mobile apps using React Native.

Skills:

My skills include proficiency in Java, Python, Ruby, React, Node.js, MySQL, MongoDB, and React Native. I also have strong communication and teamwork skills, the ability to work independently and in a team environment, and excellent problem-solving and analytical skills.

References:
Available upon request.

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[*]CV is generated by ChatGPT 3.5 and modified by the author.

UNIT THREE

3.1   READING

An A.I.-Generated Picture Won an Art Prize. Artists Aren't Happy.[*]

"I won, and I didn't break any rules," the artwork's creator says.

Jason Allen's A.I.-generated work, "Théâtre D'opéra Spatial," took first place in the digital category at the Colorado State Fair. via Jason Allen

This year, the Colorado State Fair's annual art competition gave out prizes in all the usual categories: painting, quilting, sculpture.

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[*] Roose, K. (2022, September 2). An A.I.-Generated Picture Won an Art Prize. Artists Aren't Happy. *The New York Times*. Text is adopted and retrieved from https://www.nytimes.com/2022/09/02/technology/ai-artificial-intelligence-artists.html. Accessed on July 31, 2023.

But one entrant, Jason M. Allen of Pueblo West, Colo., didn't make his entry with a brush or a **lump** of clay. He created it with *Midjourney*, an artificial intelligence program that turns lines of text into **hyper-realistic** graphics.

Mr. Allen's work, "*Théâtre D'opéra Spatial*," took home the blue ribbon in the fair's contest for emerging digital artists — making it one of the first A.I.-generated pieces to win such a prize, and setting off a fierce **backlash** from artists who accused him of, essentially, cheating.

Reached by phone on Wednesday, Mr. Allen defended his work. He said that he had made clear that his work — which was submitted under the name "Jason M. Allen via *Midjourney*" — was created using A.I., and that he hadn't deceived anyone about its origins.

"I'm not going to apologize for it," he said. "I won, and I didn't break any rules."

A.I.-generated art has been around for years. But tools released this year — with names like DALL-E 2, *Midjourney* and Stable Diffusion — have made it possible for **rank amateurs** to create complex, abstract or photorealistic works simply by typing a few words into a text box.

These apps have made many human artists understandably nervous about their own futures — why would anyone pay for art, they wonder, when they could generate it themselves? They have also generated fierce debates about the ethics of A.I.-generated art, and opposition from people who claim that these apps are essentially a high-tech form of **plagiarism**.

Mr. Allen, 39, began experimenting with A.I.-generated art this year. He runs a studio, *Incarnate Games*, which makes tabletop games, and he was curious how the new breed of

A.I. image generators would compare with the human artists whose works he commissioned.

This summer, he got invited to a ***Discord*** chat server where people were testing *Midjourney*, which uses a complex process known as "**diffusion**" to turn text into custom images. Users type a series of words in a message to *Midjourney*; the bot spits back an image seconds later.

Mr. Allen created his artwork with *Midjourney*, an artificial intelligence program that turns lines of text into hyper-realistic graphics. He became **obsessed**, creating hundreds of images and **marveling** at how realistic they were. No matter what he typed, *Midjourney* seemed capable of making it.

"I couldn't believe what I was seeing," he said. "I felt like it was **demonically inspired** — like some otherworldly force was involved."

Eventually, Mr. Allen got the idea to submit one of his *Midjourney* creations to the Colorado State Fair, which had a division for "digital art/digitally manipulated photography." He had a local shop print the image on canvas and submitted it to the judges.

"The fair was coming up," he said, "and I thought: How wonderful would it be to demonstrate to people how great this art is?"

Several weeks later, while walking the fairground in Pueblo, Mr. Allen saw a blue ribbon hanging next to his piece. He had won the division, along with a $300 prize.

1. Who won the digital category at the Colorado State Fair art competition?

a) Jason Allen

b) Kevin Roose

c) Stable Diffusion

2. What did Jason Allen use to create his artwork?

a) A brush

b) A lump of clay

c) Midjourney

3. What backlash did Jason Allen face after winning the prize?

a) Accusations of cheating

b) Accusations of stealing

c) Accusations of lying

4. How did the emergence of A.I.-generated art affect human artists?

a) It made them feel optimistic about the future.

b) It made them nervous about their own futures.

c) It had no impact on human artists.

5. What was the reaction of some artists to Jason Allen's win at the Colorado State Fair?

a) They congratulated him on his achievement.

b) They accused him of cheating.

c) They invited him to collaborate on future projects.

6. What did Jason Allen do to make it clear that his artwork was created using A.I.?

a) He included a disclaimer in his submission.

b) He talked to the judges beforehand.

c) He did not make it clear that his artwork was created using A.I.

7. What was the prize for winning the digital category at the Colorado State Fair art competition?

a) A blue ribbon and $100 prize

b) A blue ribbon and $300 prize

c) A trophy and $500 prize

8. What did Jason Allen do when he saw the blue ribbon hanging next to his artwork at the fair?

a) He took it down and walked away.

b) He took a photo of it and shared it on social media.

c) He left it hanging and walked around the fairgrounds.

9. What is the name of the A.I. program used by Jason Allen to create his artwork?

a) DALL-E 2

b) Stable Diffusion

c) Midjourney

10. What did Jason Allen submit to the Colorado State Fair art competition?

a) A painting

b) A sculpture

c) A digitally generated image

11. How did Jason Allen feel about the A.I.-generated images he created?

a) Disappointed

b) Surprised

c) Nervous

Exercise 2. Careful Reading & Inferencing Questions**

1. What category did Jason Allen's artwork win in the Colorado State Fair's art competition?

a) Painting

b) Quilting

c) Digital

2. What did Jason Allen hope to demonstrate by submitting his Midjourney creation to the Colorado State Fair?

a) The superiority of human artwork over A.I.-generated art

b) The potential of A.I.-generated art

c) The need for more rules and regulations in art competitions.

3. What did Jason Allen call the artwork he submitted to the Colorado State Fair?

a) Théâtre D'opéra Spatial

b) Blue Ribbon

c) Incarnate Games

4. What is the name of the studio that Jason Allen runs?

a) Midjourney Games

b) DALL-E 2 Studio

c) Incarnate Games

5. How did Jason Allen describe the process of creating A.I.-generated art?

a) Demonic

b) Inspiring

c) Mundane

6. What process does Midjourney use to turn text into custom images?

a) Painting

b) Quilting

c) Diffusion

7. How did Jason Allen submit his artwork to the Colorado State Fair?

a) He submitted it online

b) He mailed it to the judges

c) He had it printed on canvas and submitted it in person

8. What did Jason Allen say when asked if he had broken any rules by submitting an A.I.-generated artwork to the Colorado State Fair?

a) He apologized for it

b) He said he had broken the rules

c) He said he hadn't broken any rules

9. What was the reaction of some traditional artists to Jason Allen's win?

a) They congratulated him on his success

b) They accused him of cheating

c) They were indifferent

10. What did Jason Allen win for his artwork at the Colorado State Fair?

a) A blue ribbon

b) A $500 cash prize

c) A blue ribbon and a $300 cash prize

11. What ethical concerns have arisen from the use of A.I. tools like Midjourney to create art?

a) The potential loss of jobs for traditional artists

b) The lack of creativity in A.I.-generated art

c) The ownership and authenticity of A.I.-generated art

Exercise 3. Vocabulary Questions**

1. **What does "hyper-realistic" mean?**

    a) Extremely realistic

    b) Extremely fake

    c) Extremely abstract

2. **What does "plagiarism" mean?**

    a) The act of creating something original

    b) The act of copying someone else's work

    c) The act of selling artwork

3. **What does "diffusion" mean?**

    a) A complex process used by Midjourney

    b) A simple process used by human artists

    c) A process used to print artwork

4. **What does "obsessed" mean?**

    a) Disinterested

    b) Unenthusiastic

    c) Preoccupied

5. **What does the phrase "rank amateurs" mean?**

    a) Skilled professionals

    b) Unskilled beginners

    c) Experienced hobbyists

6. **What does the phrase "marveling at" mean?**

    a) Disliking

    b) Criticizing

    c) Admiring

7. **What does the phrase "demonically inspired" mean?**

   a) Evil or wicked

   b) Divinely inspired

   c) Mediocre or unimpressive

8. **What does the word "Discord" mean in the context of the article?**

   a) A disagreement or conflict

   b) A chat server or app

   c) A musical note or sound

9. **What does the word "lump" mean in the context of the article?**

   a) A small, shapeless mass

   b) A type of clay used in sculpting

   c) A synonym for "brush"

10. **What does the term "backlash" in the context of the article refer to?**

   a) A type of paintbrush used in traditional art

   b) Negative reactions or criticism towards Jason Allen's A.I.-generated artwork

   c) A technique used to create 3D images using A.I.

3.2   VOCABULARY

Talking about new technology in English [*]

Many I.T. professionals are interested in new, state-of-the-art technology. This particular exercise will help you talk to your co-workers, friends, etc. about new technology, gadgets, etc. and teach you new vocabulary relating to this topic.

Exercise 1. Choose the best response for each one.

1. This is the (a. first in the world - b. first world - c. world's first) mobile device that uses LTE (Long Term Evolution) technology.

2. You have to (a. hook it - b. hook it up - c. hang it) to a desktop or laptop.

3. Very thin speakers = (a. Ultra-skinny - b. Ultra-thin - c. Ultra-skin) speakers

4. This laptop can (a. run off - b. turn on - c. use) battery power for about 2.5 hours.

5. The new technology really (a. enthralls - b. entails - c. enhances) the performance of the bass frequencies of these speakers.

6. You can't (a. beat - b. lower - c. guess) the price. = The price is very good (You won't be able to find a better deal).

---

7. "Mobile (a. broadband - b. interface - c. 4G)" refers to high-speed internet access on mobile devices.

8. HDTV broadcasts are often described as "(a. water - b. mirror - c. crystal) clear". (= absolutely clear; perfect)

9. This system will provide you with (a. good to the last drop - b. professional grade - c. expert) digital video surveillance for an affordable price.

10. This video surveillance system only takes about 30 minutes to (a. set up - b. set aside - c. dead set). (= prepare, assemble)

11. The new external Skype phone can (a. function - b. interpret - c. access) as both a telephone and a webcam.

12. This new functionality is really (a. soporific - b. sophisticated - c. sincere).

13. This surveillance system can be set up to send cell-phone (a. information - b. messaging - c. alerts).

14. In some places, it's already possible to watch live TV (a. broadcasts - b. air-time - c. sets) on a mobile device. (= cell phone, BlackBerry, etc.)

15. This surveillance system allows you to (a. assess - b. click - c. access) your cameras through the internet.

16. I'm not sure I like this new (a. train - b. trend - c. tram).

17. New technology devices are often referred to as "(a. gadgets - b. goods - c. gateway products)".

18. Sony has always been an innovator in consumer electronics. = Sony has always been on the (a. cutting board - b. cutting edge - c. cut and paste) of consumer electronics.

19. Novatel's new MiFi is a small 3G radio that can create a mobile wi-fi (a. hot-connection - b. hotspot - c. dial-up) almost anywhere.

20. The MiFi will be sold through wireless network (a. provisions - b. professionals - c. providers).

21. LG Electronics recently (a. unraveled - b. unveiled - c. underestimated) a smartphone chip which can offer a connectivity speed that's eight times faster than that of current smartphones.

22. Its capabilities are far (a. super - b. above - c. superior) to (= much better than) those of current 3G devices.

23. With this cell phone, you can even (a. streak - b. stream - c. streamline) high-definition movies without any buffering.

24. Cell phone = mobile phone = (a. Handset - b. Handy - c. Handle)

25. They plan to (a. roll out - b. throw out - c. break out) this new phone in 2015.

26. The new RIM BlackBerry has gotten (a. matted - b. masked - c. mixed) reviews. = Not everyone likes the new RIM BlackBerry.

27. LTE (Long Term Evolution) technology will probably be used by many next-(a. generation - b. genetics - c. generalization) mobile devices.

28. Many new mobile devices use a touch (a. interface - b. interaction - c. intercom)

instead of a real keypad.

29. The iPhone 6 is a little (a. buddy - b. buggy - c. busy).

30. New products often (a. minimize - b. use up - c. maximize) space better than their

predecessors. = New products often make better use of space than their predecessors.

3.3 GRAMMAR

Adjective Clauses

An adjective clause (or a relative clause) is a dependent clause that modifies a noun. It describes, identifies, and gives extra information about a noun. It starts with an adjective/ relative pronoun (i.e. *who*, *whom*, *that*, *which*, and *whose*).

Adjective pronouns can be used to combine two sentences into one. This section explains the way two sentences can be combined using is divided into six parts:

1. **Adjective clause pronouns used as the subject**

2. **Adjective clause pronouns used as the object**

3. **Adjective clause pronouns used as the object of preposition**

4. **Whose**

5. **Where**

6. **When**

Adjective clause pronouns used as the subject

Adjective clause pronouns (*who*, *which*, *that*) can be used to modify a noun that is the **<u>subject</u>** of a sentence. These pronouns have to immediately follow the noun they modify.

"*Who*": describes **people**

"*Which*": describes **objects**

"*That*": describes both **people** and **objects**

Examples:

Subject	Subject
I thanked <u>the woman</u>. **She** helped me.	<u>The book</u> is mine. **It** is on the table.
I thanked <u>the woman</u> **who/that** helped me.	<u>The book</u> **which/that** is on the table is mine.

Exercise 1. Combine the two sentences using the appropriate adjective pronoun.

1. The book is on the table. You left it there.

_____

2. The car is fast. I drove it yesterday.

_____

3. The cookies are delicious. I baked them this morning.

_____

4. The flowers are beautiful. They bloom in the spring.

_____

5. The movie was long. We watched it last night.

_____

6. The job is challenging. I applied for it last week.

_____

7. The house is big. They just renovated it.

_____

8. The cat is playful. I adopted it from the shelter.

_____

Adjective clause pronouns used as the object

Adjective clause pronouns (*who*, *which*, *that*) can be used to modify a noun that is the **object** of a sentence. In this case, it is possible to omit the pronoun, unlike in the case of the subject. These pronouns have to immediately follow the noun they modify.

Examples:

Object	Object
The man was Mr. Jones. I saw **him.**	I finished the book. I bought **it** last week.
The man **who(m)** I saw was Mr. Jones.	I finished the book **which** I bought last week.
The man **that** I saw was Mr. Jones.	I finished the book **that** I bought last week.
The man **Ø** I saw was Mr. Jones.	I finished the book **Ø** I bought last week.

It is acceptable to use either "*who*" or "*whom*" when they come in the place of an object. However, "**whom**" is associated only with **formal contexts**.

Exercise 2. Combine the sentences using adjective pronouns. Give all the possible patterns.

1. The book impressed me. I bought it at the bookstore.

   _____

2. I visited the city. It has a lot of historical landmarks.

   _____

3. The athlete won the gold medal. I saw her on TV.

   _____

4. The restaurant serves delicious food. My friends recommended it to me.

_____

5. The movie received great reviews. My family and I watched it last weekend.

_____

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Adjective clause pronouns used as the object of preposition

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The **object of preposition** is just like a regular object; the only difference is that this object occurs after a preposition. In this case, forming an adjective clause requires paying attention to the position of the preposition with the adjective pronoun used. **The preposition** can come *before and after* "**whom**" and "**which**", while it can come *only after* "**who**", "**that**", and "**Ø**". Again, the <u>adjective pronoun should immediately follow the modified noun.</u>

Examples:

Object of preposition

She is the woman. I told you <u>about</u> **her**.

She is the woman <u>about</u> **whom** I told you.

She is the woman **who(m)** I told you <u>about</u>.

She is the woman **that** I told you <u>about</u>.

She is the woman **Ø** I told you <u>about</u>.

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Object of preposition

↑

The music was good. We listened <u>to</u> **it** last night.

The music <u>to</u> **which** we listened last night was good.

The music **which** we listened <u>to</u> last night was good.

The music **that** we listened <u>to</u> last night was good.

The music **Ø** we listened <u>to</u> last night was good.

</div>

Exercise 3. Combine the sentences using adjective pronouns. Give all the possible patterns.

1. The concert was amazing. I went to it with my friends.

_____

_____

_____

2. The restaurant has great food. I always order from them for delivery.

_____

_____

_____

3. The team won the championship. I cheered for them throughout the season.

_____

_____

_____

4. The city has a rich history. I learned about it on a guided tour.

_____

_____

_____

5. The company is hiring new employees. I submitted my resume to them.

_____

_____

_____

6. The company is known for its innovative technology. I read about it in a magazine.

_____

_____

_____

7. You sent the package to an address. It was wrong.

_____

_____

_____

WHOSE

"**Whose**" is an adjective pronoun that modifies a noun in terms of possession. It immediately follows what belongs to the modified noun. It replaces **the possessive adjective** in the sentence so that it is placed <u>between the owner and his/her possession</u>.

Examples:

> I know the student. **His** writing is excellent.
>
> ⬇
>
> I know the student **whose** writing is excellent.

> Mr. Henry has a car. **Its** model is very attractive.
>
> ⬇
>
> Mr. Henry has a car **whose** model is very attractive.

Exercise 4. Combine the following sentences using WHOSE.

1. The girl was crying. Her cat ran away.

_____

2. The restaurant is famous. Its chef has won several awards.

_____

3. The book was recommended by my friend. Its author is a Nobel laureate.

_____

4. The school organized a trip for the students. Their parents had to sign a permission slip.

_____

5. I visited a city. Its architecture is stunning.

_____

6. The car was parked on the street. Its owner left the keys in the ignition.

_____

7. The museum has an exhibition. Its curator is a renowned art historian.

_____

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WHERE

</div>

"**Where**" is used in an adjective clause to modify a place (city, country, room, house, etc.). When *where* is used, **NO preposition is added** to the adjective clause. However, if *where* is not used, **the preposition must be added**. The **preposition** can come either **before or after** "*which*" and **only after** "*that*" and "*Ø*".

Examples:

> The house is very old. He lives **there** (in that house).
>
> The house **where** he lives is very old.
>
> The house **which** he lives <u>in</u> is very old.
>
> The house <u>in</u> **which** he lives is very old.

> The house **that** he lives <u>in</u> is very old.
>
> The house **Ø** he lives <u>in</u> is very old.

Exercise 5. Combine the following sentences using all the possible patterns of adjective clauses.

1. The museum is located in the city. We saw many interesting artifacts there (in the museum).

   _____

   _____

   _____

2. The hotel is near the beach. We stayed there (at the hotel) for a week.

   _____

   _____

   _____

3. The park has many hiking trails. We go there (to the park) every weekend.

   _____

   _____

   _____

4. The school is very big. I met my best friend there (at the school).

   _____

   _____

   _____

$$\boxed{\textbf{WHEN}}$$

"*When*" is an adjective pronoun that is used to modify a time (year, day, time, century, etc.). Using another adjective pronoun instead of *when* is different. The preposition can only precede "*which*". If "*that* / *Ø*" are used, **NO preposition** is added to the adjective clause.

Examples:

> I'll never forget the day. You saved my life **then**. (on that time)
>
> I'll never forget the time **when** you saved my life.
>
> I'll never forget the day on **which** you saved my life.
>
> I'll never forget the day **that** you saved my life.
>
> I'll never forget the day **Ø** you saved my life.

Exercise 6. Combine the following sentences using all the possible patterns of adjective clauses.

1. Friday is the day. We will meet then (on that day).

   _____

   _____

   _____

   _____

2. 2:30 pm is the time. Our meeting starts then (at that time).

   _____

   _____

   _____

   _____

3. January is the month. The temperature is usually the coldest then (in that month).

_____

_____

_____

_____

4. 1776 is the year. The American Revolution began then (in that year).

_____

_____

_____

_____

3.4   WRITING

WRITING A BUSINESS LETTER

What is a Business Letter and its Purpose?

A business letter is a formal written communication between two parties, usually sent from one organization to another or from a company to its stakeholders. The purpose of a business letter is to convey important information, make requests, provide feedback, and establish professional relationships. It is important to maintain a professional tone and follow the standard format of a business letter to ensure that the message is conveyed effectively.

Elements of a Business Letter

The following are the essential elements of a business letter:

•   **Insider's Address**: The sender's address appears at the top of the letter, usually aligned to the right-hand side of the page. It includes the sender's name, company, and complete address.

•   **Date**: The date is written below the sender's address, and it indicates the day the letter was written. It should be written in the format of Month, Day, Year.

•   **Recipient's Address**: The recipient's address is written below the date, and it includes the recipient's name, company, and complete address.

•   **Salutation**: The salutation is the greeting at the beginning of the letter, and it should be formal and addressed to the recipient. For example, "Dear Mr./Ms./Dr. [Last Name]".

- **Introduction**: The introduction should briefly introduce the purpose of the letter and provide context for the message.

- **Body**: The body of the letter contains the main message and includes supporting details or information. It should be concise, clear, and well-organized.

- **Closing**: The closing is the final paragraph of the letter and should include a call to action or a summary of the message.

- **Signature**: The sender's signature appears below the closing and should be followed by the sender's full name and job title.

- **Enclosures**: If there are any additional documents or attachments, they should be listed after the signature with the notation "Enclosure(s)".

Principles of Letter Writing

To ensure that your business letter is effective and professional, follow these principles:

- **Be Clear and Concise**: Use simple language and avoid using technical jargon or complex words. The message should be clear and easily understood.

- **Be Courteous and Professional**: Use a professional tone and avoid using slang, humor, or inappropriate language. Address the recipient by their appropriate title and use proper salutations.

- **Be Organized and Well-Structured**: Use a clear and logical structure for the letter and organize the information in a logical order. Use headings and subheadings to break up the content and make it easier to read.

- **Be Relevant and Focused**: Stick to the main message and avoid including irrelevant information. The letter should be focused and provide relevant information.

• **Be Proofread and Edited**: Check for grammar and spelling errors and ensure that the letter is free from typos and mistakes. The letter should be well-edited and polished.

Exercise 1. You are a fresh graduate, and you have a chance of joining a training program at a software company, all what you need is a recommendation letter from one of your former professors. Write a letter to one of them asking him/her to write you a recommendation letter so that you can join this program. Note that you need to mention to your teacher your points of distinction as a student.

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UNIT FOUR

4.1   READING

Artificial General Intelligence (AGI)[*]

What can artificial general intelligence do?

AGI in computer science is an intelligent system with **<u>comprehensive</u>** or complete knowledge and cognitive computing capabilities. As of publication, no true AGI systems exist; they remain the stuff of science fiction. The theoretical performance of these systems would be indistinguishable from that of a human. However, the broad intellectual capacities of AGI would exceed human capacities because of its ability to access and process huge data sets at incredible speeds.

An AGI system should have the following abilities and understanding:

- Abstract thinking.

- Background knowledge.

- Common sense.

- Cause and effect.

- Transfer learning.

Practical examples of AGI capabilities include the following five:

- **Creativity**. An AGI system would theoretically be able to read and comprehend human-generated code and improve it.

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[*] Text is adopted and retrieved from: https://www.techtarget.com/searchenterpriseai/definition/artificial-general-intelligence-AGI. Accessed on July 31, 2023.

- **Sensory perception**. AGI would excel at color recognition, which is a **subjective** kind of perception. It would also be able to perceive depth and three dimensions in static images.

- **Fine motor skills**. An example of this includes grabbing a set of keys from a pocket, which involves a level of imaginative perception.

- **Natural language understanding (NLU)**. The meaning of human language is highly context-dependent. AGI systems would possess a level of **intuition** that would enable NLU.

- **Navigation**. The existing Global Positioning System (GPS) can pinpoint a geographic location. Once fully developed, AGI would be able to project movement through physical spaces better than existing systems.

AI researchers also anticipate that AGI systems will possess higher-level capabilities, such as being able to do the following:

- Handle various types of learning and learning algorithms.

- Create fixed structures for all tasks.

- Understand symbol systems.

- Use different kinds of knowledge.

- Understand belief systems.

- Engage in metacognition and make use of metacognitive knowledge.

AGI vs. AI: What's the difference?

Existing artificial intelligence capabilities are referred to as narrow AI when compared with artificial general intelligence. AGI is theoretical, whereas narrow AI is in practical use today.

AGI should theoretically be able to perform any task that a human can and exhibit a range of intelligence in different areas without human intervention. Its performance should be as good as or better than humans at solving problems in most areas.

In contrast, weak AI excels at completing specific tasks or types of problems. Many existing AI systems use a combination of machine learning (ML), deep learning (a subset of machine learning), reinforcement learning and natural language processing (NLP) for self-improving and to solve specific types of problems. However, these technologies do not approach the **cumulative** ability of the human brain.

Examples of AI in use today include the following:

- Customer service chatbots.

- Voice assistants like Apple's Siri and Amazon's Alexa.

- Recommendation engines such as those Google, Netflix and Spotify use to promote content to users.

- AI-powered business analytics and business intelligence (BI) tools that conduct data analysis, gauge customer sentiment and present data visualizations for end users.

- Image and facial recognition applications as well as the deep learning models they use.

Examples of artificial general intelligence

True AGI systems are not on the market yet. However, examples exist of narrow artificial intelligence systems that **approximate** or even exceed human abilities in certain areas. Artificial intelligence research is focused on these systems and what might be possible with AGI in the future.

Here are some examples of those systems:

- **Expert systems**. These AI-based systems mimic human judgement. They can recommend medicine based on patient data and predict molecular structure, for example.

- **Self-driving cars**. These AI-guided vehicles recognize other vehicles, people and objects on the road and adhere to driving rules and regulations.

- **ROSS Intelligence**. ROSS is a legal expert system that is also called the AI attorney. It can mine data from about 1 billion text documents, analyze the information and provide precise responses to complicated questions in less than three seconds.

- **AlphaGo.** This is another example of narrow intelligence that excels at a specific type of problem solving. AlphaGo is a computer program that can play the board game Go. Go is a complex game that is difficult for humans to master. In 2016, AlphaGo beat the world champion Lee Sedol in a five-game match.

- **Language model Generative Pre-trained Transformer**. GPT-3 and GPT-4 are release versions of a program from OpenAI that can automatically generate human language. The technology is consistently able to emulate general human intelligence. In some cases, the text is indistinguishable from human output; however, the AI output is often flawed.

- **Music AIs.** Dadabots is an AI algorithm that, given a body of existing music, can generate a stream of its own approximation of that music.

For all their impressive capabilities, however, their flaws and dangers are well-known among users at this point, meaning they still fall short of fully autonomous AGI. Whether it is because of the **propensity** of such tools to generate

inaccuracies and **misinformation** or their inability to access up-to-date information, human **oversight** is still needed **mitigate** potential harm to society.

Exercise 1. Skimming & Scanning questions**

1. What is the difference between AGI and AI?

A) AGI is theoretical, while AI is in practical use today.

B) AGI is in practical use today, while AI is theoretical.

C) AGI and AI have the same capabilities.

D) AGI and AI are both science fiction concepts.

2. What are the five practical examples of AGI capabilities mentioned in the article?

A) Creativity, sensory perception, fine motor skills, natural language understanding, and navigation.

B) Creativity, sensory perception, mathematical reasoning, pattern recognition, and navigation.

C) Natural language understanding, facial recognition, data analysis, musical composition, and navigation.

D) Sensory perception, fine motor skills, mathematical reasoning, pattern recognition, and natural language understanding.

3. What is ROSS Intelligence?

A) An AI-guided vehicle.

B) A legal expert system that can mine data and provide precise responses to complicated legal questions.

C) An AI system that can play the board game Go.

D) An AI algorithm that can generate music.

4. What is the name of the program that can automatically generate human language?

A) AlphaGo.

B) ROSS Intelligence.

C) Generative Pre-trained Transformer.

D) Dadabots.

5. In what year did AlphaGo beat the world champion Lee Sedol in a five-game match?

A) 2014.

B) 2015.

C) 2016.

D) 2017.

6. What type of data analysis can AI-powered business analytics and BI tools conduct?

A) Gauge customer sentiment.

B) Extract human DNA.

C) Analyze weather patterns.

D) Predict natural disasters.

7. What are some of the areas that an AGI system should theoretically be able to perform as well as or better than humans?

A) Understanding symbol systems, handling various types of learning algorithms, understanding belief systems.

B) Analyzing weather patterns, predicting natural disasters, understanding human emotions.

C) Solving mathematical problems, reading human handwriting, recognizing human faces.

D) Creating fixed structures for all tasks, understanding belief systems, engaging in metacognition.

8. What is the main advantage of AGI over human intelligence?

A) AGI can process data at incredible speeds.

B) AGI can perform any task that a human can without human intervention.

C) AGI requires less energy than the human brain.

D) AGI can learn from other AGI systems.

9. What is the main disadvantage of existing AI systems?

A) They are too expensive to develop.

B) They are not as accurate as human intelligence.

C) They cannot learn from experience.

D) They can only complete specific tasks or types of problems.

10. What is the current state of true AGI systems?

A) They are in practical use today.

B) They remain the stuff of science fiction.

C) They are still in the early stages of development.

D) They have been banned by international law.

Exercise 2. Careful Reading & Inferencing Questions. **

1. What is artificial general intelligence (AGI)?

A) A theoretical system that can perform any task a human can without human intervention.

B) A practical system that can perform specific tasks more efficiently than humans.

C) An AI system that can only perform tasks related to natural language understanding.

D) An expert system that can provide precise responses to complicated legal questions.

2. What are some higher-level capabilities that AGI is expected to possess?

A. Transfer learning, background knowledge, and abstract thinking.

B. Symbol systems, belief systems, and metacognition.

C. Natural language processing, machine learning, and deep learning.

D. Data analysis, customer sentiment, and data visualization.

3. Which of the following is an example of narrow AI?

A. An expert system that can provide precise legal responses.

B. An AI-guided vehicle that recognizes and adheres to driving rules.

C. A language model that can automatically generate human language.

D. A customer service chatbot that can answer basic questions.

4. What is the ROSS Intelligence system?

A. An AI-guided vehicle that recognizes and adheres to driving rules.

B. A legal expert system that can provide precise responses to complicated questions.

C. An algorithm that can generate its own approximation of existing music.

D. A computer program that can play the board game Go.

5. What is AlphaGo?

A. An AI-guided vehicle that recognizes and adheres to driving rules.

B. A legal expert system that can provide precise responses to complicated questions.

C. An algorithm that can generate its own approximation of existing music.

D. A computer program that can play the board game Go.

6. What is Generative Pre-trained Transformer (GPT)?

A. An AI-guided vehicle that recognizes and adheres to driving rules.

B. A legal expert system that can provide precise responses to complicated questions.

C. An algorithm that can generate its own approximation of existing music.

D. A language model that can automatically generate human language.

7. What is the Dadabots AI algorithm?

A. An AI-guided vehicle that recognizes and adheres to driving rules.

B. A legal expert system that can provide precise responses to complicated questions.

C. An algorithm that can generate its own approximation of existing music.

D. A computer program that can play the board game Go.

8. Why is human oversight needed for AI systems?

A. To ensure they can perform any task a human can without human intervention.

B. To mitigate potential harm to society caused by inaccuracies and misinformation.

C. To improve their cognitive capabilities and make them more advanced.

D. To reduce the cost of implementing AI in various industries.

Exercise 3. Vocabulary Questions. **

1. What is the meaning of "comprehensive"?

A) Incomplete.

B) Limited.

C) Thorough.

D) Confusing.

2. What is the meaning of "subjective"?

A) Objective.

B) Unbiased.

C) Based on personal opinion.

D) Based on scientific research.

3. What is the meaning of "intuition"?

A) Logical reasoning.

B) Emotional intelligence.

C) A gut feeling.

D) Learned behavior.

4. What is the meaning of "approximate"?

A) Exact.

B) Precise.

C) Close, but not exact.

D) Unknown.

5. What is the meaning of "cumulative"?

A) Decreasing.

B) Increasing.

C) Stagnant.

D) Dispersed.

6. What is the meaning of "mitigate"?

A) To make worse.

B) To ignore.

C) To reduce.

D) To exaggerate.

7. What is the meaning of "propensity"?

A) A strong dislike.

B) A natural inclination.

C) A lack of interest.

D) A fear.

8. What is the meaning of "inaccuracies"?

A) Correct information.

B) Flaws or mistakes.

C) Precise data.

D) Objective facts.

9. What is the meaning of "misinformation"?

A) Accurate information.

B) Objective facts.

C) False or misleading information.

D) Emotional intelligence.

10.What is the meaning of "oversight"?

A) A lack of attention.

B) A careful watch.

C) A mistake.

D) A misunderstanding.

4.2 VOCABULARY

Enterprise Content Management [*]

This exercise is designed to help you practice vocabulary related to Enterprise Content Management (ECM), especially for those who speak English as a second language. ECM refers to Enterprise content management is a set of defined processes, strategies and tools that allows a business to effectively obtain, organize, store and deliver critical information to its employees, business stakeholders and customers.

Exercise 1. Choose the best response for each one:

1. We need to ensure that the correct version of a document is being (a. accessed - b. assisted - c. accented) at any given time.

2. An ECM (enterprise content management) system will manage documents through their entire life- (a. cycle - b. support - c. affirmation).

3. We got rid of our last ECM software because it just didn't (a. make - b. mosh - c. match) our business needs.

4. Thanks to the new ECM system, we've (a. bettered - b. improved - c. incremented) performance and increased sales.

5. You're going to have to (a. scale - b. print - c. scan) all of these documents to add them to the new system. You can use the scanner in Robert's office.

6. What type of (a. version - b. aversion - c. verse) control software are you familiar with?

7. How can I (a. import - b. impose - c. impact) these e-mails into the new content management system?

8. This new system is really (a. commonplace - b. complimented - c. complicated). It takes a long time to understand how to use it.

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9. We need to install a digital (a. arch-rival - b. archiving - c. arc) system. We have over 2,000 images that need to be organized properly.

10. This system is quite (a. well-versed - b. versatile - c. volatile). It will accept data in diverse formats from mixed sources.

11. A good Digital Asset Management system can ensure that your content (a. complies - b. complicates - c. completes) with a variety of government (or internal) regulations.

12. More and more government laws and regulations (such as the USA Patriot Act) require certain types of organizations to (a. collocate - b. collect - c. collate) and store information about people. This is one reason why content management software is becoming increasingly popular.

13. Most ECM systems guarantee that your information will be stored (a. securely - b. security - c. secure).

14. A lot of these processes are automated, since (a. menial - b. manual - c. maniacal) processes require more labor and are more prone to error.

15. Will we have to (a. undo - b. recognize - c. rework) our data infrastructure before importing it into the new ECM system?

16. The goal of the software is to (a. signify - b. signal - c. significantly) improve your business operations.

17. We need a system which will allow us to all (a. share - b. shared - c. sharing) this information.

18. Peter has installed ECM systems at two major corporations. He can help us (a. imply - b. implement - c. implicate) and maintain an effective program.

19. Every ECM system is able to (a. effective - b. affected - c. effectively) manage various content types such as electronic documents, scans, web content, email, etc.

20. We'll help you manage all types of documents with equal (a. facility - b. easy - c. simplification) (= ease).

4.3 GRAMMAR

If- Conditional

There are *four* types of if-conditionals in English. Each type expresses a different degree of *possibility* or *likelihood* of the condition being fulfilled. Conditional sentences have two parts: the *if-clause* and the *main/result clause*.

Zero Conditional:

This type of conditional expresses a **general or scientific truth**, or a **fact** that always happens when a certain condition is met. It uses the present simple tense in both clauses.

Real situation (Present)

Rule: If + present simple → present simple.

Examples:

- If you **heat** water to 100 degrees Celsius, it **boils**.
- If you **don't eat**, you **get** hungry.
- If you **study** hard, you **learn** more.

First Conditional:

This type of conditional expresses *a possible future condition* and its *likely result*. It uses the present simple tense in the if-clause and the future simple (or modal verb + base form of the verb) in the main/result clause.

Real situation (Future)

Rule: If + present simple → will + simple form of the verb

Examples:

- If it *rains* tomorrow, we *will stay* at home.
- If I *have* more money, I *will buy* a bigger house.

Second Conditional:

This type of conditional expresses *an imagined or hypothetical present or future condition* and its *unlikely or impossible result*. It uses the past simple tense in the if-clause and the present conditional (would + base form) in the main clause.

Real situation (/Present/ Future)

Rule: If + past simple → would + simple form of the verb.

Examples:

- If it *rained* tomorrow, we *would stay* home.
- I *had* more money, I *would buy* a bigger house.

Third Conditional:

This type of conditional expresses a **past condition that did not happen** and its **hypothetical result**. It uses the past perfect tense in the if-clause and the past conditional perfect (would have + past participle) in the main clause.

Unreal situation (Past)

Rule: If + past perfect → would have + past participle.

Example:

- If it *had rained* tomorrow, we *would have stayed* home.
- I *had had* more money, I *would have bought* a bigger house.

NOTE: There are also mixed conditionals, which combine parts of two or more types of conditionals. These are used to express complex or hypothetical relationships between past, present, and future conditions and results.

Mixed Conditionals

Mixed past to present conditional

RULE: IF + Past Perfect → would + simple form of the verb
(Imagined past)   (Present results)

We use this conditional to talk about **present results** of **an imagined past condition/action:**

If she had more free time   ,   she would exercise every day.
(She didn't have more free time.)   (She doesn't exercise every day now.)

If they had a bigger budget   ,   they would hire more employees.
(They didn't have a bigger budget.)   (They don't hire more employees now.)

Examples:

- If I **had** a car, I **would drive** to work every day.
- If he **spoke** Spanish, he **could travel** to many more countries.
- If we **had** a bigger apartment, we **would host** more events.

Mixed present to past conditional

We use this conditional to talk about **imagined past results** of **a present condition/situation**:

RULE: IF + Past Simple → would have + P.P

        (Present situation)   **(Imagined past results)**

If I <u>didn't have</u> to work, I <u>would have gone</u> on vacation.

(I have to work now.)   (I didn't go on vacation.)

If they <u>had</u> more money   , they <u>would have bought</u> a bigger house.

(They don't have enough money now.)   (They didn't buy a bigger house.)

Examples:

- If he **<u>were</u>** taller, he **<u>would have played</u>** basketball professionally.
- If we **<u>had</u>** more time, we **<u>would have visited</u>** more museums.
- If she **<u>spoke</u>** Japanese, she **<u>would have gotten</u>** the job.

Exercise 1. Put The Verbs in Brackets in The Correct Tense (Conditional 1).[*]

1. If I (finish) _____ early, I (call) _____ you.
2. I (catch) _____ the 9:00 train if I (hurry) _____ up.
3. She (know) _____ the answer if she (try)_____ to understand.

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[*] Exercise adapted and retrieved from: https://www.myenglishpages.com/english/grammar-exercise-conditionals.php. Accessed on July 31, 2023.

Exercise 2. Put The Verbs in Brackets in The Correct Tense (Conditional 2).**

    1. If I (be) _____ a star, I (help) _____ the needy.

    2. He (buy) _____ a house if he (have) _____ a job.

    3. She (be) _____ happy if she (marry) him.

Exercise 3. Put The Verbs in Brackets in The Correct Tense (Conditional 3).**

    1. If he (be) _____ careful, he (have not) that terrible accident.

    2. I (pass) _____ the exam if I (work) hard .

    3. Her father (not die), if he (go) _____ to the doctor.

Exercise 4. Choose the correct meaning, A or B. **

1. If Sarah had more time, she'd take up a new hobby.

    A. Sarah has enough time to take up a new hobby.

    B. Sarah doesn't have enough time to take up a new hobby.

2. If the weather is nice, we'll have a picnic in the park.

    A. The speaker thinks the weather will be nice.

    B. The speaker thinks the weather won't be nice.

3. If you had studied harder, you would have passed the exam.

    A. The speaker is giving advice.

    B. The listener didn't study hard enough.

4. If I wake up early, I'll go for a run.

    A. The speaker is likely to wake up early.

    B. The speaker is unlikely to wake up early.

5. If we had more money, we'd travel the world.

A. The speaker has enough money to travel the world.

B. The speaker doesn't have enough money to travel the world.

6. If I had known you were coming, I would have baked a cake.

A. The speaker knew the listener was coming.

B. The speaker didn't know the listener was coming.

Mixed Conditionals Exercises

Exercise 5. Read each sentence. Decide if each explanation, A and B, is true (T) or false (F).

1. If I had a car, I would drive to work.

A. I don't have a car. _____

B. I like to walk to work. _____

2. If the sun is shining, we'll go to the beach.

A. The speaker thinks the sun will be shining. _____

B. The speaker thinks the sun won't be shining. _____

3. If I had studied harder, I would have passed the exam.

A. The speaker didn't study hard enough. _____

B. The speaker passed the exam. _____

4. If the train hadn't been delayed, I would have arrived on time.

A. The train was delayed. _____

B. The speaker arrived on time. _____

5. If I were taller, I would have played basketball professionally.

    A. The speaker is tall enough to play basketball professionally. _____

    B. The speaker is not tall enough to play basketball professionally. _____

6. If we hadn't missed the turn, we would have arrived at the hotel earlier.

    A. The speaker missed the turn. _____

    B. The speaker arrived at the hotel earlier. _____

Exercise 6. Mixed conditionals. Choose the correct answer.[*]

1. If I hadn't fought for our relationship, we (weren't – wouldn't be – wouldn't have been) together now.

2. I would be happier if I (said – would say – had said) 'yes' when she asked me to marry her.

3. If you weren't such a jerk, they (would have invited – had invited – would invite) you to yesterday's party.

4. If you (had taken – would have taken – took) a map, as I told you, we wouldn't be lost now.

5. If I didn't love you, I (hadn't married – wouldn't marry you – wouldn't have married) you last year.

6. If I had more time, I (called – would have called – would call) you last night.

7. If you ('d accepted – would accept – would have accepted) that job, you would be miserable now.

8. I'm afraid of flying. If I (wouldn't have been – hadn't been – wasn't) afraid of flying we'd have travelled by plane.

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[*] Exercise adapted and retrieved from: https://test-english.com/grammar-points/b2/mixed-conditionals/. Accessed on July 31, 2023.

9. If you ('d taken – took – would have taken) dad's car without permission last night, you might be in trouble.

10. You wouldn't have this job if I (hadn't prepared – wouldn't have prepared – didn't prepare) you for the interview.

4.4 WRITING

NOTE-TAKING SKILLS

As you embark on your academic journey, one skill that will be essential for your success is note-taking. Whether you are attending lectures or participating in meetings, taking effective notes is crucial for understanding and retaining information. In this guide, we will discuss the purpose of note-taking, active listening skills, organization techniques, selective and concise writing, abbreviations and symbols, structuring notes, active engagement, review and revise, and visual representation. By the end of this guide, you will have a better understanding of how to take notes that will help you learn and succeed in your academic pursuits. Note-taking can be applied to a variety of situations, including lectures, meetings, reading, and researching.

The purposes of note-taking include:

- Helping you **stay engaged and focused** during a lecture or meeting.
- Capturing **key ideas** and information that you can refer to later.
- Aiding in **retention** and **understanding** of the material.
- **Providing a record** of what was covered in the lecture or meeting.
- Helping you **prepare for exams** or assignments.
- **Organizing and synthesizing information** from different sources when reading or conducting research.

To take effective notes, you should:

- **Stay focused** and actively engage with the material.
- **Use an organizational system** that works for you, such as outlining, bullet points, or mind maps.
- **Be selective** about what you write down, focusing on key ideas and supporting details.

- **Write clearly and legibly**.

- **Review and revise** your notes regularly to reinforce your understanding and identify any gaps.

- **Use abbreviations and symbols** to save time and space, but make sure they are clear and easy to understand.

- **Keep your notes organized** and easy to access.

Organizational systems for notetaking:

- **Cornell method**[*]:

The Cornell method is a note-taking system that was developed by Walter Pauk, an education professor at Cornell University. The system involves dividing your notes page into three sections:

➢ **The left column** is used to capture **cues or keywords** that help you to remember the main points of the lecture or reading.
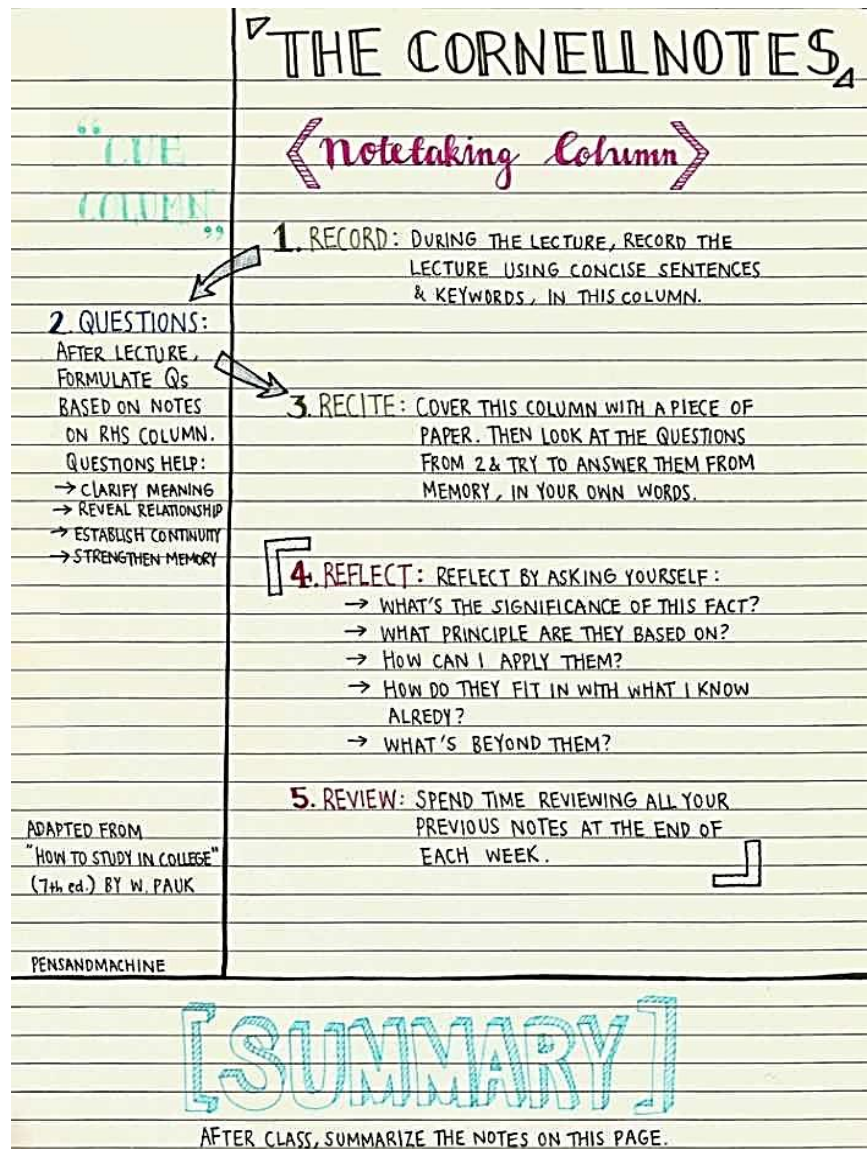
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[*] Image: Note-taking strategies infographic. (2019, February 19). Adopted and retrieved from https://www.weareteachers.com/note-taking-strategies/. Accessed on July 31, 2023.

➢ **The right column** is used to **capture your notes in a structured and organized way**.

➢ **The summary section** at the bottom is used to **summarize the main points** and key ideas of the lecture or reading.

The advantage of the Cornell method is that it provides a systematic approach to note-taking that makes it easier to review and study the material later on. By using cues or keywords, you can quickly identify the main points of the lecture or reading, and the summary section provides a concise overview of the material. The Cornell method is a popular note-taking system used by many students and professionals because of its simplicity and effectiveness.

- **Listing:** This method involves using short, concise statements to capture key ideas and supporting details. This method is useful for capturing information quickly and efficiently.

Example:

Main idea (1)

   Supporting detail

   Supporting detail

Main idea (2)

   Supporting detail

   Supporting detail

- **Mind maps***: This method involves creating a visual representation of the information, with the main idea at the center and branches representing sub-ideas and supporting details. This method is useful for capturing the relationships between different ideas and seeing the overall structure of the information.

Example:
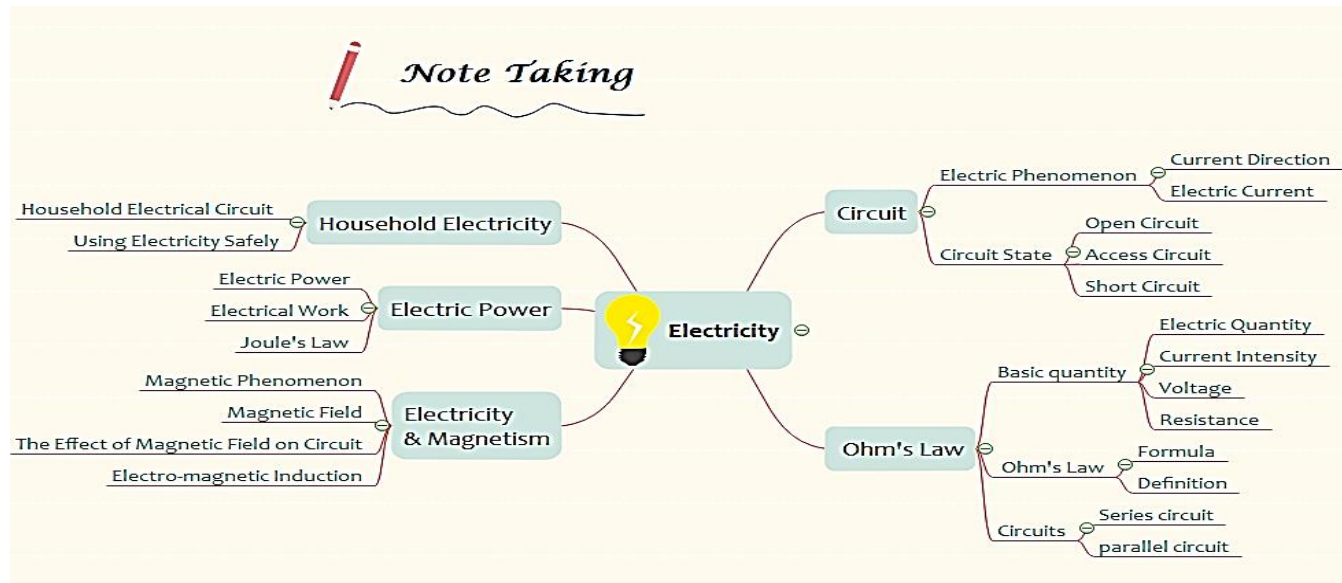
Use common symbols and abbreviations that you are familiar with and can remember easily. Examples include:

$ → money or cost	≠ → not equal to
% → percent	≡ →equivalent to
vs. → versus	≈ → approximate to
e.g. → for example	→ leads on to, produces, causes
i.e. → that is	v. →very vv. → extremely

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* Lynch, A. (n.d.). Mind map note-taking example [Screenshot]. In Mind Map - A Fantastic Way for Note Taking. In Edraw. https://www.edrawsoft.com/mindmap/mind-map-note-taking.html. Accessed on July 31, 2023.

+ → increase/ add	K → thousand
- → decrease/without	m → million

Tips on using abbreviations and symbols:

- **Create your own list of abbreviations that are specific to the subject or topic you are studying**. This can save time and help you to take more detailed notes. For example, you might use abbreviations such as OS (Operating System), WAN (Wide Area Network), IP (Internet Protocol), and DNS (Domain Name System).

- **Choose the language that works best for you when taking notes**, whether it's in English, Arabic, or a combination of both. The most important thing is to focus on capturing the key ideas and concepts effectively, using a note-taking technique that helps you take notes quickly and efficiently. Don't worry too much about the language you use, as long as your notes are clear and organized in a way that **makes sense to you.**

- **Consider creating a personalized list of abbreviations and symbols for commonly used words**. For example, you could use "acc.2" instead of "according to" or "⚡" instead of "electricity". This can help you save time and increase efficiency when taking notes or writing.

- **Be consistent in your use of symbols and abbreviations**. Use the same symbols and abbreviations throughout your notes to avoid confusion.

- **Use symbols and abbreviations carefully**. Overuse can lead to confusion and make it difficult to read and understand your notes later on.

- **Make sure that your abbreviations are clear and easy to read**. Avoid using abbreviations that are too similar to each other, as this can make it difficult to distinguish between them.

- Instead of trying to write down everything you hear, **focus on taking notes of what you understand.** This will help you process the information more effectively and remember it better. Don't worry about capturing every word verbatim, but rather aim to capture the key points and ideas that you find most important and relevant to your needs.

- **Practice using symbols and abbreviations in your note-taking before using them in important classes or lectures**. This will help you to become more comfortable with them and use them effectively.

UNIT FIVE

5.1   READING

MAN OR MACHINE[*]

MIT's **humanoid** robots **showcase** both human creativity and contemporary **pessimism**. Humanoid robots were once the stuff of political and science fiction. Today, scientists working in Japan and the USA have been turning fiction into a physical reality.

A. During July 2003, the Museum of Science in Cambridge, Massachusetts exhibited what Honda calls 'the world's most advanced humanoid robot', ASIMO (the Advanced Step in Innovative Mobility). Honda's brainchild is on tour in North America and delighting audiences wherever it goes. After 17 years in the making, ASIMO stands at four feet tall, weighs around 115 pounds and bob like a child in an astronaut's suit. Though it is difficult to see ASIMO's face at a distance, on closer inspection it has a smile and two large 'eyes' that conceal cameras. The robot cannot work **autonomously** — its actions are 'remote controlled' by scientists through the computer in its backpack. Yet watching ASMIO perform at a show in Massachusetts it seemed **uncannily** human. The audience cheered as ASIMO walked forwards and backwards, side to side and up and downstairs. It can even dance to the Hawaiian Hula.

B. While the Japanese have made huge strides in solving some of the engineering problems of human kinetics and bipedal movements, for the past 10 years scientists at MIT's former Artificial Intelligence (Al) lab (recently renamed the Computer Science and Artificial Intelligence Laboratory, CSAIL) have been making robots that can behave like humans and interact with humans. One of MIT's robots, Kismet, is an **anthropomorphic**

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[*] Text and exercises 1 &2 are adopted and retrieved from: https://www.ieltscareerzone.in/best-ielts-academic-reading-test-17/. Accessed on July 31, 2023.

head and has two eyes (complete with eyelids), ears, a mouth, and eyebrows. It has several facial expressions, including happy, sad, frightened and disgusted. Human **interlocutors** are able to read some of the robot's facial expressions, and often change their behaviour towards the machine as a result - for example, playing with it when it appears 'sad'. Kismet is now in MIT's museum, but the ideas developed here continue to be explored in new robots.

C. Cog (short for Cognition) is another **pioneering** project from MIT's former Al lab. Cog has a head, eyes, two arms, hands and a torso and its proportions were originally measured from the body of a researcher in the lab. The work on Cog has been used to test theories of embodiment and developmental robotics, particularly getting a robot to develop intelligence by responding to its environment via sensors, and to learn through these types of interactions. This approach to Al was thought up and developed by a team of students and researchers led by the head of MIT's former Al lab, Rodney Brooks (now head of CSAIL), and represented a completely new development.

D. This work at MIT is getting furthest down the road to creating human-like and interactive robots. Some scientists argue that ASIMO is a great engineering **feat** but not an intelligent machine because it is unable to interact autonomously with unpredictability's in its environment in meaningful ways, and learn from experience. Robots like Cog and Kismet and new robots at MIT's CSAIL and media lab, however, are beginning to do this.

E. These are exciting developments. Creating a machine that can walk, make gestures and learn from its environment is an amazing achievement. And watch this space: these achievements are likely rapidly to be improved upon. Humanoid robots could have plenty of uses in society, helping to free people from everyday tasks. In Japan, for example, there is an aim to create robots that can do the tasks similar to an average human, and

also act in more sophisticated situations as firefighters, astronauts or medical assistants to the elderly in the workplace and in homes partly in order to **counterbalance** the effects of an ageing population.

F. Hence, in addition to these potentially creative plans there lies a certain idea that companions can be replaced with machines, for example, suggests a mechanical and **degraded** notion of human relationships. On one hand, these developments express human creativity our ability to invent, experiment, and to extend our control over the world. On the other hand, the aim to create a robot like a human being is **spurred on** by dehumanized ideas by the sense that human companionship can be substituted by machines; that humans lose their humanity when they interact with technology; or that we are little more than surface and ritual behaviours, that can be simulated with metal and electrical circuits.

G. The tension between the dehumanized and creative aspects of robots has long been explored in In Karel Capek's Rossum's Universal Robots, a 1921 play in which the term 'robot' was first **coined**, although Capek's robots had human-like appearance and behaviour, the dramatist never thought these robots were human. For Capek, being human was about much more than appearing to be human. In part, it was about challenging a dehumanising **system**, and struggling to become recognised and given the **dignity** of more than a machine. A similar spirit would guide us well through twenty-first century experiments in robotics.

Exercise 1. Which paragraph contains the following information? Write the correct letter, A-G on your answer sheet.

1. The different uses of robots in society.

2. How robot is used in the artistic work.

3. A robot that was modelled on an adult.

4. A comparison between two different types of robots.

5. A criticism of the negative effects of humanoid robots on the society.

6. A reference to the first use of the word "robot."

7. People feel humanity may be replaced by robots.

Exercise 2. Complete the summary below using NO MORE THAN TWO WORDS from the passage.

It took Honda [8]……………………….. years to make ASIMO, a human-looking robot that attracted broad interests from audiences. Unlike ASIMO, which has to be controlled through a computer installed in the [9]……………………………, MIT's scientists aimed to make robot that can imitate human behavior and [10]…………………… with humans. One of such particular inventions can express its own feelings through [11]………………… Another innovative project is a robot called [12]…………………… which is expected to learn from its environment to gain some [13] …………………………

Exercise 3. Vocabulary Questions.**

1. **What is a synonym for "humanoid"?**
   a. human-like
   b. robotic
   c. mechanical
   d. android
2. **What is a synonym for "showcase"?**
   a. exhibit
   b. display

c. demonstrate

d. reveal

3. **What is a synonym for "pessimism"?**

    a. hope

    b. optimism

    c. cynicism

    d. negativity

4. **What is a synonym for "anthropomorphic"?**

    a. human-like

    b. animal-like

    c. robotic

    d. mechanical

5. **Which of the following is the meaning of the verb "coined"?**

    a. to create or invent something new

    b. to stamp or mint coins

    c. to make a sharp turn

    d. to be the first to use a word

6. **What is another word for "delighting" in paragraph A?**

    a. entertaining

    b. fascinating

    c. amazing

    d. pleasing

7. **What is another word for "uncannily" in paragraph A?**

    a. eerily

    b. strangely

c. mysteriously

d. supernaturally

8. **What is another word for "interlocutors" in paragraph B?**

   a. speakers

   b. conversationalists

   c. communicators

   d. interlocutors

9. **What is another word for "pioneer" in paragraph C?**

   a. innovator

   b. engineer

   c. entrepreneur

   d. innovative

10. **What is another word for "feat" in paragraph D?**

    a. achievement

    b. accomplishment

    c. success

    d. mastery

11. **What is another word for "counterbalance" in paragraph E?**

    a. offset

    b. compensate

    c. balance

    d. neutralize

12. **What is another word for "degraded" in paragraph F?**

    a. debased

    b. devalued

c. diminished

d. belittled

13. What is another word for "spurred on" in paragraph F?

a. motivated

b. encouraged

c. inspired

d. driven

14. What is another word for "system" in paragraph G?

a. structure

b. organization

c. framework

d. institution

15. What is another word for "dignity" in paragraph G?

a. honor

b. respect

c. esteem

d. worth

16. Which of the following is the meaning of the word "autonomously"?

a. without the need for human input

b. dependently

c. self-directed

d. a & c

e. all of the above

5.2 VOCABULARY

Search Engines

Exercise 1. Using a search engine, put the words into the spaces.**

click on	**criteria**	**database**	**hyperlinks**
keywords	**matches**	**media**	**refining**
returns	**sponsored**	**view**	

1. A _____ of web pages is used by search engines to quickly find matches for your search terms.

2. Search engines use complex algorithms to determine _____ between keywords and web pages.

3. The search engine's _____ included a mix of restaurant reviews, food blogs, and directories.

4. _____ links are a way for companies to advertise their products or services on search engines.

5. You can _____ the hyperlinks in the search results to visit the web pages.

6. You can _____ the cached version of a web page to see a snapshot of how it looked in the past.

7. Different types of _____, such as images or videos, can also be included in search engine results.

8. By _____ your search _____, you can find more accurate and relevant results.

9. Search engines return a list of matches based on the _____ you entered.

10._____ are clickable elements that allow users to navigate between different web pages or sections within a page.

Exercise 2. Using a search engine, put the words into the spaces. **

autocomplete	**cache**	**criteria**	**indexing**
metadata	**snippet**	**sponsored**	**view**

1. _____ links may appear at the top of the search results page, as they are paid ads from companies.
2. The search engine uses various _____ to determine the relevance of indexed pages to your search query.
3. You can _____ the web page by clicking on the search result link, which opens the page in a new tab or window.
4. To speed up the search process, search engines store frequently accessed web pages in a _____on their servers to provide faster access to users.
5. The _____ feature in the search box suggests possible search queries as you start typing.
6. _____ is the process of creating a searchable database of web pages that a search engine has crawled.
7. _____ such as the page title, URL, and description may be displayed alongside the search result to help you decide which one to click on.
8. The _____ displayed in the search result gives a brief overview of the web page's content and relevance to your search.

5.3   GRAMMAR

Coordinating Conjunctions

Coordinating conjunctions join parts of a sentence together. The seven coordinating conjunctions are *for*, *and*, *nor*, *but*, *or*, *yet*, *so*. They are also commonly known as **FANBOYS**. One use of conjunctions is to join parts of a sentence that have the same grammatical function (i.e. adjective, noun, verb, adverb, etc.). This use of coordinating conjunctions creates what is called "parallel structure" as they divide the sentence to equal and similar parts.

Examples:

a)   She loves **to dance** and **(to) sing**.

                              Infinitive   **Infinitive**

b)   The restaurant serves delicious **food** and **drinks**.

                                               Noun   **Noun**

c)   My mom likes **reading** and **writing**.

                          Gerund   **Gerund**

d)   We **cleaned** the house, **did** laundry, and **washed** the dishes.

               Verb   **Verb**   **Verb**

e)   The dress was **beautiful** but **expensive**.

                        Adj.   **Adj.**

f) The band played **loudly** and **energetically**.

$$\text{Adv.} \qquad \text{Adv.}$$

The words in parentheses are written as such because they are optional (i.e. they can be omitted from the sentence as parallel structure makes repetition unnecessary). A parallel structure may contain more than two parts. In this case, commas are used to set off the units from one another. The final comma preceding the coordinating conjunction is optional. However, in your writing, you should be consistent if you decide to use it or not.

(a)   Mary, Erica and Jane are going to school.

Incorrect ✗ : Mary, and Erica are coming to dinner.

(b)   Susan washed her face, ate her breakfast, and opened the door.

(c)   The colors in that fabric are red, gold, black, and green.

NOTE: You cannot use a comma when the parallel structure is made up of only two parts. Commas are used when there are three or more parts of a parallel structure.

Exercise 1. In the following sentences, identify the pattern used in each parallel structure:

1. She is both talented and hardworking. _____

2. The restaurant serves both vegetarian and non-vegetarian dishes. _____

3. The company values both integrity and innovation. _____

4. The performance was both impressive and entertaining._____

5. I enjoy both hiking in the mountains and swimming in the ocean._____

6. He is both friendly and knowledgeable. _____

7. The book covers both history and culture. _____

8. She is both beautiful and intelligent. _____

Exercise 2. Combine the following sentences into one concise sentence by employing parallel structure, punctuating properly:

1. Sarah enjoys reading books. Sarah likes watching movies.

    _____

2. John is studying for his test. John is reviewing his notes. John is practicing problems.

    _____

3. The restaurant serves pizza. The restaurant offers pasta. The restaurant has salads.

    _____

4. She wants to travel to Europe. She wants to learn a new language. She wants to meet new people.

    _____

5. The company values teamwork. The company values creativity. The company values innovation.

_____

6. He woke up early. He went for a run. He took a shower.

_____

7. She enjoys listening to music. She enjoys watching TV. She enjoys reading books.

_____

8. The store sells shoes. The store sells clothes. The store sells accessories.

_____

Exercise 3. Fill in the blanks using your own words. Complete each sentence, using parallel structure.**

1. She is known for her intelligence, creativity, and _____.

2. The team worked hard, communicated effectively, and _____ to win the championship.

3. The sun is shining bright, the birds are singing, and _____.

4. I love to read books, watch movies, and _____ on lazy weekends.

5. He wakes up early, exercises, and _____ before starting his workday.

6. Learning new languages and _____ are two of my favorite hobbies.

7. She is passionate about cooking, baking, and _____ for her loved ones.

Exercise 4. Error analysis: Correct the errors in the following sentences.

1. She enjoys hiking, skiing, and to ride bicycles.

_____

2. The company values teamwork, dedication, and punctuality, and a strong work ethic.

_____

3. His favorite hobbies are playing video games, watching TV, and to read books.

_____

4. The concert featured music from classical, jazz, and rock and roll genres.

_____

5. She is both talented at singing and play the piano.

_____

6. By obeying the speed limit, we can save energy, lives, and it costs us less.

_____

7. I like to go to the beach, surfing, and lying in the sun.

_____

8. The new employee is skilled in programming, web design, and to write technical documentation.

_____

Paired Conjunctions

(BOTH…AND; EITHER…OR; NEIITHER…NOR; NOT ONLY…BUT ALSO)

Paired conjunctions, as the name suggests, are pairs of conjunctions that come together to join sentences. They are related to parallel structure as the elements that occur between the parts of a paired conjunction have to be similar in structure.

☐ I have to work harder on <u>both</u> **English** <u>and</u> **French**. (both + noun + and + noun)

☐ Last week, it <u>not only</u> **rained** <u>but (also)</u> **snowed**. (not only + verb + but also + verb)

☐ That song is <u>neither</u> **catchy** <u>nor</u> **memorable**. (neither + adjective + nor + adjective)

Both…And

These paired conjunctions always require a verb in the **plural form**.

☐ Both **my husband** and **my son** are vegetarian.

      N   **N**

☐ Both **<u>my friends</u>** and **<u>my relatives</u>** are vegetarian.

      N   **N**

When two subjects are joined by these paired conjunctions, the subject closer to the verb determines whether the verb should be in the singular or plural form.

- <u>Either</u> the cake <u>or</u> the **cookies are** the dessert for tonight.
- <u>Either</u> the cookies <u>or</u> the **cake is** the dessert for tonight.
- <u>Neither</u> the book <u>nor</u> the **movies are** worth your time.
- <u>Neither</u> the movies <u>nor</u> the **book is** worth your time.
- <u>Not only</u> the dress <u>but also</u> **the shoes are** on sale.
- <u>Not only</u> the shoes <u>but also</u> **the dress is** on sale.

Exercise 5. Fill in the gaps using *is* or *are*

1. Both the cat and the dog _____ sleeping in their beds.

2. Neither the cat nor the dog _____ interested in playing right now.

3. Not only the cat but also the dog _____ hungry.

4. Not only the dog but also the cats _____ thirsty.

5. Either the birds or the squirrels _____ making that noise outside.

6. Either the squirrels or the birds _____ building a nest in the tree.

7. Both the flowers and the trees _____ blooming in the garden.

8. Both the tree and the flowers _____ providing shade in the park.

Exercise 6. Rewrite the following sentences correctly:

1. Either I will go to the beach or to the mountains for vacation.

_____

2. Not only Sue saw the bird but also the cat.

_____

3. Both my sister and my brother like to play soccer.

_____

4. Either the red shirt or the blue pants goes well with this outfit.

_____

5. Oxygen is essential for life. Both water contain air and oxygen.

_____

6. Either the dog will eat chicken or meat.

_____

7. Both the apple and the banana is fruits.

_____

8. Either the book or the movie are a good choice for tonight.

_____

5.4 WRITING

WRITING A RESEARCH PAPER

Writing a research paper is an important skill that students and scholars alike must master. Whether it's for academic or professional purposes, research papers require a certain level of rigor and attention to detail in order to effectively communicate new ideas and findings. In this article, we will discuss the basic parts of a research paper, as well as tips and best practices for writing one that is clear, concise, and effective.

Basic Parts of a Research Paper:

Title Page: This page includes the title of the paper, the author's name, institutional affiliation, and the date of submission.

Abstract: This is a brief summary of the paper, usually no more than 250 words, that provides an overview of the research question, methods, findings, and conclusions.

Introduction: This section introduces the topic of the research paper, provides background information, and outlines the research question or hypothesis. The introduction of a research paper typically includes the following parts:

- **Background or Context**: This section provides an overview of the topic and the context in which the research is situated. It may include a brief history of the topic, a summary of previous research, or an explanation of why the topic is important or relevant.

Example: "The topic of climate change has gained significant attention in recent years due to its potential impact on human societies and the environment. Previous research has shown that rising global temperatures are contributing to more frequent and severe weather events, such as hurricanes, floods, and droughts."

- **Research Question or Hypothesis**: This section articulates the specific research question or hypothesis that the paper seeks to address. It may be presented as a statement or a series of questions.

  Example: "This research paper seeks to investigate whether there is a correlation between increased greenhouse gas emissions and the frequency and severity of hurricanes in the Atlantic Ocean."

- **Objectives or Aims**: This section outlines the specific objectives or aims of the research paper, describing what the research hopes to achieve and why it is important.
  Example: "The specific objectives of this research paper are to analyze historical data on greenhouse gas emissions and hurricane activity, to identify any trends or patterns, and to determine whether there is a statistically significant relationship between the two variables."

- **Scope or Limitations**: This section defines the scope of the research paper, describing the specific aspects of the topic that will be explored and those that will be excluded. It may also outline any limitations or constraints that

may impact the research.

Example: "This research paper will focus specifically on the Atlantic Ocean region and will analyze data from the past 50 years. It will exclude other regions and time periods due to limited data availability."

- **Methodology or Approach**: This section describes the research methodology or approach that will be used to address the research question or hypothesis. It may include a description of the research design, data collection methods, and data analysis techniques.
  Example: "The research methodology for this paper will involve a quantitative analysis of historical data on greenhouse gas emissions and hurricane activity. Data will be collected from reliable sources, such as the National Oceanic and Atmospheric Administration (NOAA), and statistical techniques will be used to analyze the data."

- **Rationale**: This section highlights the significance of the research paper and its contribution to the field. It may describe how the research builds on previous work, fills a gap in the literature, or has practical implications.
  Example: "This research paper is significant because it will contribute to a better understanding of the relationship between greenhouse gas emissions and hurricane activity. By identifying any correlations or patterns, the research may help inform policy decisions related to climate change mitigation and adaptation strategies."

Literature Review: This section reviews the existing literature on the topic, highlighting the relevant studies, theories, and findings that inform the research question.

Methods: This section describes the research methods and procedures used to collect and analyze data, including the sample size, data collection tools, and statistical analyses.

Results: This section presents the findings of the research, using tables, graphs, and charts to illustrate the data.

Discussion: This section interprets the findings of the research and discusses their implications, limitations, and future directions.

Conclusion: This section summarizes the main findings and conclusions of the research paper and suggests areas for further research.

In terms of language structures and words that should or should not be used in a research paper, the following section demonstrates some of the structures you should use and others to be avoided:

Consider the following when writing a research paper:

    • Clear and concise rather than ambiguous language:

Instead of: "The results of the study were <u>somewhat</u> inconclusive."

This statement is ambiguous and unclear. It does not provide a clear understanding of the study's findings.

Write: "The results of the study were inconclusive."

This statement is clear and concise, and it clearly communicates the study's findings.

• Formal rather than informal language:

Instead of: "The participants were totally <u>freaked out</u> by the experiment."

This statement is informal and uses colloquial language that is not appropriate for a research paper.

Write: "The participants were significantly <u>affected</u> by the experiment."

This statement uses formal language and is appropriate for a research paper.

• Active rather than passive voice:

Instead of: "The experiment was conducted to investigate the effects of the treatment."

This statement uses passive voice, which can make the writing less clear and engaging.

Write: "The researchers conducted the experiment to investigate the effects of the treatment."

This statement uses active voice, which is more engaging and emphasizes the researchers as the subject of the sentence.

• Precision:

Instead of: "The study found that <u>the participants liked the product</u>."

This statement is imprecise and does not provide specific information about what the participants liked or to what extent they liked it.

Write: "The study found that **80% of participants** rated the product as **'excellent'** and **20%** rated it as **'good'**."

This statement uses precise language and provides clear information about the participants' ratings of the product. It is more informative and helpful for the reader.

• Transition words:

Instead of: "The study found that the new drug was effective. The study found that it had some side effects."

This statement lacks transition words and does not flow smoothly from one idea to the next.

Write: "The study found that the new drug was effective; **however**, it **also** had some side effects."

This statement uses the transition word "however" to indicate a contrast between the two ideas and improve the coherence of the writing.

• Avoid using contractions:

Instead of: "It's important to note that the results <u>aren't</u> conclusive."

This statement uses contractions, which are not appropriate for a formal research paper.

Write: "It is important to note that the results <u>are not</u> conclusive."

This statement uses formal language and avoids the use of contractions.

• Avoid repetitive language:

Instead of: "The study found that the participants were happy. This indicates that the participants were content."

This statement repeats the same idea using different words, which can make the writing less interesting and less clear.

Write: "The study found that the participants were happy, indicating their contentment."

This statement uses specific language and avoids repetition, making the writing more interesting and engaging.

Tips for Writing Research Papers:

- Start early and plan ahead to allow time for research, drafting, and revisions.
- Read and understand the assignment requirements and guidelines before starting the research paper.
- Choose a narrow and focused research question or hypothesis that is both interesting and feasible.
- Use credible and reliable sources, such as peer-reviewed articles and reputable databases.
- Organize the research paper logically and consistently, using headings and subheadings to guide the reader.
- Use clear and concise language, avoiding jargon and technical terms that may be unfamiliar to the reader.
- Cite all sources properly and consistently, using a recognized citation style such as APA or MLA.
- Proofread the research paper carefully for spelling, grammar, and punctuation errors.

Exercise 1. Rewrite the following paragraphs considering the tips you studied.[*]

"The researchers conducted the study to determine the effectiveness of a new treatment. They collected data, but it wasn't very clear. The treatment affected the participants, and it might have messed up the results. The treatment had some side effects, but they didn't really matter. In conclusion, the study found that the treatment was moderately effective, but it could have been better. We should note that the researchers didn't have enough time to conduct the study nicely. They found that the treatment worked somewhat, but they need to research it more to figure out what's going on."

_____

_____

_____

_____

_____

_____

_____

_____

[*] Exercise is generated by ChatGPT 3.5 and modified by the author.

_____

_____

"The researchers conducted an experiment to test the hypothesis that caffeine boosts productivity. The study produced quite unclear results, but it seems caffeine might have had some effect. The researchers allowed the participants to eat whatever they wanted, which made it difficult to control the study. Caffeine had some minor side effects, but they didn't seem to bother the participants. The study found that caffeine has some benefits, but it's not clear how much. It's important to note that the participants didn't really like the study, but it wasn't a big deal. The researchers need to conduct more research to determine if caffeine is useful."

_____

_____

_____

_____

_____

_____

_____

_____

UNIT SIX

6.1 READING

Cybersecurity[*]

Since the businesses are more and more relying on information and associated information systems (IS) as well as using information technology (IT) a lot changes the problem of computer security over a period of time. Still, there are only small changes occurred in the security or safeguards implemented in the information systems. Even identifying the required securities and policies is not able to be done by most of the executives.

A. In the span of July 1991 - July 1996, the internet users from the commercial sector had increased from 33% to 50%. It shows how the internet becomes an important factor for business growth. Generally, the size of the internet approximately doubles each year and the related security incidents have been running in **parity**. Though the malicious users' percentage is less, the number of failed security incidents is significantly larger since the size of the internet is increased.

B. In network, the Morris worm was entered into the Internet which invaded, attacked and replicated itself, in 1998. To fix this problem, Both Email and connectivity has been shut down. But, still, the fixes were to be distributed through e-mail and so the solution doesn't serve the purpose. Consequently, In 1992, CERT (Computer Emergency Response Team) with the Australian version (AUSCERT) was formed to **tackle** the worm virus.

C. The problem with Internet security is that malicious incidents are increasing in complexity. The increasing availability of toolkits has become one of the reasons for

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[*] Text and exercises (1-3) are adapted and retrieved from: https://www.kanan.co/ielts/computer-security-ielts-reading-answers/. Accessed on August 23, 2023.

it. Actually, the toolkits are made for the computer systems designers to guard and develop their sites. But, it turns out to be helpful for those ignorant intruders to execute the intended complex incidents by using many routers and **disguises**. A US Department of Defence report says that the incidents which have happened are less than 1% but 65% of those are successful. One thing that we should keep in mind is that hackers and intruders don't fit into the geographical, administrative boundaries or time zones. The reason might be they have been geographically dislocated during the attack. Therefore, they must be operating 'off-duty hours'.

D. The key thing to understand here is that system administrators should get it right all the time but the intruder should get it right just once. Evidence will be easier to find for this. In 1997, a Bell Atlantic Network was hacked by the teenager. As a result of his hacking, the computer **crashed** and 600 homes, a regional airport and emergency services became without telephone communication for six hours. Punishment for this offence is as follows, two years probation, community service and a fine of US$5,000.

E. From the wake of September 11, Governments started to take sincere action against cyber crimes. It is found that crimes are being connected to national security, which becomes a prime concern for both government officials and the public. The government took action faster. The US Patriot Act was introduced in late 2001. This Act increased the maximum punishment of five to ten years for those who break into computers. Then in July 2002, the House of Representatives **sanctioned** the Cyber Security Enhancement Act. If the act of the cyber crime by an offender causes the death of an individual, he will be condemned to life sentence. After the September 11 attacks, the FBI and other government agencies **elevated** their monitoring of the internet. This becomes the reason for the disappearance of hackers as their act no longer considered as a play or challenge, but terrorism.

F. On the other side, September 11 events caused some ex-hackers to use their broad knowledge, skills and experience to coordinate with the security forces to help the fight against terrorism.

G. Computer viruses and hacking incidents continue even after the punishment threats are increased. Long-time security measures which have been implemented by companies and individuals are not fail-safe. Firewalls are one of the prime IS security measures. It filters the entering data and leaves the corporate IS. Though the firewalls have a number of advantages, it will not be a total cure for all 18 security **woes**, just an **enhancement**. It will only offer a false sense of security and just provide a minimal amount of protection against internal attackers. In a nutshell, the corporate world needs to realise that computer security will be an **on-going** problem and **expense**.

Exercise 1. The reading passage has six paragraphs, A-G. Choose the correct heading for each paragraph from the list of headings below. Write the correct number, i-x, as your answer to each question.

List of Headings	Paragraphs A-G
i. Activities of hackers and intruders	
ii. Importance of Internet	
iii. Computer security and its features	
iv. The Process of Hacking	
v. How Government fight against cyber crimes	
vi. The Morris Worm	
vii. Intruders can easily hack	
viii. How firewall performs	
ix. Ex-hackers and fight against terrorism	
x. Secret of Effective computer security	

Exercise 2. Do the following statements agree with the information given in the reading passage? Mark the following statements as TRUE, FALSE, or NOT GIVEN.

1. The internet size roughly doubles every year.
2. The toolkits made for the computer programmers to protect their programming.
3. The US Patriot Act was introduced in early 2001.
4. Polymorphic virus challenges the antivirus to detect the viruses.

Exercise 3. Choose NO MORE THAN THREE WORDS from the passage for each answer.

1. When was the Morris worm introduced into the internet?
2. Which act was introduced in late 2001?
3. Which is one of the prime IS security measures?

Exercise 4. Vocabulary Questions. Choose the correct answer.**

1. **What does the word "parity" mean in the passage?**
   a. Equality or equivalence
   b. Disharmony or conflict
   c. Complexity or confusion
2. **What is the synonym of "tackle" as used in the passage?**
   a. Address
   b. Ignore
   c. Enhance
3. **What does the word "disguises" refer to in the passage?**
   a. Camouflages or disguises used by intruders
   b. Tools or equipment used by system administrators

c. Security measures or safeguards implemented in computer systems

4. **What is the meaning of "crashed" in the passage?**

   a. To suddenly stop functioning or operating

   b. To increase rapidly or dramatically

   c. To cause damage or destruction

5. **What does the word "sanctioned" mean in the passage?**

   a. Approved or authorized

   b. Rejected or prohibited

   c. Modified or altered

6. **What is the synonym of "elevated" as used in the passage?**

   a. Raised

   b. Lowered

   c. Maintained

7. **What does the word "woes" refer to in the passage?**

   a. Troubles or difficulties

   b. Solutions or remedies

   c. Opportunities or advantages

8. **What is the meaning of "enhancement" in the passage?**

   a. Improvement or augmentation

   b. Deterioration or decline

   c. Resistance or protection

9. **What does the word "on-going" mean in the passage?**

   a. Continuing or continuous

   b. Terminated or finished

   c. Temporary or occasional

10. What is the synonym of "expense" as used in the passage?

    a. Cost

    b. Gain

    c. Benefit

6.2 VOCABULARY

English for Computer Programmers[*]

Designed to teach you the most up-to-date IT (information technology)-related words and expressions. This exercise is on computer programming terminology.

Exercise 1. Choose the best response.

1. We have to design a new [a. part b. section c. area] for our website.

2. I don't have a lot of experience in [a. object b. code c. subject]-oriented programming languages like Java.

3. Most of my experience is in back-[a. side b. end c. to-back] programming.

4. SQL is pronounced [a. sequel b. scale c. school].

5. C# is pronounced [a. see sharp b. see pound c. see number].

6. I've written 100 lines of [a. code b. coding c. program].

7. I'm not really familiar with that programming [a. language b. tongue c. lingo].

8. I [a. can't get this b. can't make this c. can't fix this] to work properly.

9. ASP.NET is a much more [a. powerful b. strong c. power] language than classic ASP.

10. This is a password generator [a. scripting b. inscription c. script] that I have written.

11. We're looking for three programmers to help us develop our web-based [a. applications b. appliances c. applause].

12. You have to test the program to ensure that it works [a. as expected b. to expect it c. like it expected].

13. Many programmers use libraries of (modifiable) code instead of [a. coding b. code c. coded] from scratch.

14. Proprietary software is software that can be used [a. exclusively b. inclusively c. including] by the company that develops it. (= no one else can use it)

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[*] This exercise is adopted and retrieved from: https://www.businessenglishsite.com/exercise_itprog1.html. Accessed on July 30, 2023.

15. Boris is going to be helping us to implement various software sub-[a. parts b. pieces c. components].

16. He's really good at [a. troubleshooting b. trouble c. fault-finding].

17. Do you have any experience with integrating internal software solutions into [a. third party b. second party c. first party] (= external) application software?

18. Programmers with [a. certifications b. certified c. papers] or licenses are not necessarily better coders.

19. How good are you [a. at writing b. on writing c. when writing] stored procedures?

20. What's another word for "testing"? [a. debugging b. evolving c. debunking]

21. These variables are not [a. access b. assess c. accessible] from outside of the object.

22. The error message says that this variable is [a. undefined b. indefinite c. independent]. (= not defined)

23. Class A did not [a. inherit b. inherent c. inhibit] the variables from the class B = The variables from class B are not showing up in class A

24. Inheriting is sometimes called "[a. subclassing b. belowclassing c. underclassing]."

25. Can you retrieve (= get) this information from [a. multiple b. variety c. multi] classes? No, you can only retrieve it from one.

26. In programming terminology, what's the opposite of a parent class? [a. a child class b. a children's class c. a baby class]

27. Each class has its own [a. set b. sitting c. setting] of functions and variables.

28. What is this function supposed to [a. output b. outreach c. program]? (= which value is it supposed to return, what is it supposed to print, etc.)

29. What do you do with a function? You [a. call it b. call out to it c. call up on it].

30. It's a good idea to start or end local variables with a special [a. character b. characterization c. sign] (like an underscore '_').

Problems with Smartphone Apps

Exercise 2. Choose the correct preposition. Then match with the solution.**

1. This app crashes (on, in) my phone every time I try to open it.	**a.** Check the app's requirements to see if your phone meets the minimum system requirements (in, on) the app store.
2. The app is asking for permission (to, for) access my location.	**b.** Go to your phone's settings and enable location services (on, in).
3. I accidentally deleted the app (on, from) my phone.	**c.** You can request a refund (from, with) the app store's customer support.
4. The app is not compatible (with, for) my phone's operating system.	**d.** You can reinstall the app from the app store (on, to) your phone.
5. I can't find the option to turn off notifications (on, in) this app.	**e.** Try updating the app (to, for) the latest version.
6. The app is taking too much space (on, in) my phone's storage.	**f.** You can disable notifications (in, on) the app's settings menu.
7. The app keeps freezing (to, on) me while I'm using it.	**g.** You can clear the app's cache (from, in) your phone's storage settings.
8. I accidentally made an in-app purchase (on, from) this app.	**h.** Try restarting your phone or force closing the app (in, from) the app switcher.
9. I'm getting too many ads (on, in) this app, it's annoying.	**i.** You can upgrade to the ad-free version of the app (from, on) the app store.

6.3 GRAMMAR

Contrast Connectives

Connectives can take different forms and express various functions. in this unit, you will learn about contrast connectives. The relation of contrast is explained in terms of expressing **an unexpected result** and showing **direct contrast**.

A) SHOWING CONTRAST (UNEXPECTED RESULT)

To express an unexpected result, there has to be a contrast between what is expected to happen and what actually happens. For example, if the weather is cold, people are not expected to go swimming.

Example:

The weather is cold. He went swimming.

The relation between these two sentences can be expressed via 4 kinds of connectives: adverb clauses (e.g. *even though, although, though*), transitions (*nonetheless, nevertheless, however*), and prepositions (*despite, in spite of*).

Using *Although*, e*ven though*, and *though*

Adverb clauses with ***Although, even though*, and *though*** are followed by a **subject** and a **verb**.

<div align="center">

even though / although / though + S + V

</div>

- **Even though** she was sick**,** she went to school.
- **Although** the exam was hard**,** I got a high grade.
- **Though** it was raining**,** he went to work.

NOTE:

When these connectors occur at the beginning of a sentence, you need to add a comma after the dependent clause. However, if they occur in the middle of the sentence, the comma is omitted.

- She went to school **even though** she was sick.
- I got a high grade **although** the exam was hard.
- He went to work **though** it was raining.

Similarly, *transitions* such as **nevertheless** / **nonetheless** / **however** are also followed by a <u>subject</u> and a <u>verb</u>. These transitions can occur in the beginning of a new sentence (i.e. after a full stop), or in the middle of a sentence (after a semicolon). In both cases, they have to be followed by a comma. They introduce the unexpected result.

;	Nevertheless,
.	Nonetheless, + S + V
	However,

- She was sick**. Nevertheless,** she went to school.
- The exam was hard**; nonetheless,** I got a high grade.
- It was raining**. However,** he went to work.

Prepositions can also be used to show unexpected result(s). ***Despite*** and ***in spite of*** are followed by a noun, but ***despite the fact that*** and ***in spite of the fact that*** are followed by a subject and a verb.

despite + noun	*despite the fact that* + S +V
in spite of + noun	*in spite of the fact that* + S +V

- I got a high grade *despite / in spite of* the hard exam.
- I got a high grade *despite the fact that* the exam was hard.

EXERCISE 1. Choose the correct connector.**

1. *(a) In spite of - (b) Although - (c) However* it was late, she continued to work on her project.
2. *(a) Despite - (b) Although - (c) Nevertheless* the snowstorm, he decided to go for a run.
3. (*a) Even though - (b) Despite - (c) However* he failed the test he studied hard.
4. *(a) Although - (b) Nevertheless - (c) In spite of* she won the race she had a broken leg.
5. *(a) Even though - (b) Nevertheless - (c) However* being tired, he stayed up late to finish his work.
6. *(a) In spite of - (b) Although - (c) Despite* the rain, they continued to play soccer.
7. *(a) Despite - (b) Although - (c) Even though* the fact that he was sick, he still went to work.
8. *(a) Although - (b) Despite - (c) However* she went to the party she had an early morning meeting.
9. *(a) Even though - (b) In spite of - (c) Nevertheless* the noise, he managed to fall asleep.
10. *(a) In spite of - (b) Although - (c) However* they lost the game they played well.
11. **(a) Nevertheless - (b) Although - (c) Despite** she continued to sing her voice was hoarse.
12. **(a) Nevertheless - (b) Despite - (c) Although** the delay, they arrived on time.
13. **(a) Even though - (b) In spite of - (c) Nevertheless** he went to the beach it was raining.

14.(a) In spite of - (b) Although - (c) Nevertheless his fear of heights, he went skydiving.

15.(a) Although - (b) Despite - (c) However she ate the pizza she was on a diet.

16.*(a) Although - (b) In spite of - (c) Nevertheless* the traffic, he made it to the meeting on time.

17.*(a) Although - (b) In spite of - (c) Nevertheless* the fact that he was allergic to cats, he adopted one.

18.*(a) Although - (b) Despite - (c) However* he went for a walk it was snowing.

19.*(a) Even though - (b) In spite of - (c) Nevertheless* the noise from the party, he managed to study.

20.*(a) In spite of - (b) Although - (c) Nevertheless* she passed the test she didn't study.

EXERCISE 2. Showing contrast (unexpected result).
Directions: Add commas, periods, and capital letters as necessary. Make any necessary changes.

1. Anna's father gave her some good advice nevertheless she did not follow it.

_____

2. Thomas was thirsty noneheless he refused the glass of water I brought him.

_____

3. Anna's father gave her some good advice but she didn't follow it.

_____

4. Even though Anna's father gave her some good advice she didn't follow it.

_____

5. Anna's father gave her some good advice she did not follow it however.

_____

6. Thomas was thirsty I offered him some water but he refused it.

_____

7. Thomas refused the water although he was thirsty.

_____

8. Thomas was thirsty however he refused the glass of water I brought him.

_____

9. Thomas was thirsty despite he refused to drink the water that I offered him.

_____

B)   SHOWING DIRECT CONTRAST

Showing direct contrast does not involve something happening contrary to expectations since the two parts of the sentence stand in opposition to one another. This relation is illustrated through 3 kinds of connectives: **adverb clauses** (*while, meanwhile*), **conjunction** (*but*), and **transitions** (*however, on the other hand*). One feature of direct contrast sentences is that <u>they can be reversed</u> without any loss or change in the meaning.

while + S +V	(a) **While** Mike is poor, Jane is rich.
whereas + S +V	(b) Mike is poor, **while** Jane is rich.
	(c) Jane is rich, **whereas** Mike is poor.
	(d) **Whereas** Jane is rich, Mike is poor.

When "*while*" or "*whereas*" occur either in the beginning or the middle of the sentence a comma has to be used. If used in the beginning, you have to add a comma after the first sentence (a, d). If used in the middle, they are preceded by a comma (examples b, c). In both cases, they have to be followed by a subject and verb.

, **but** + S +V	(e) Jane is rich, **<u>but</u>** Mike is poor.
	(f) Mike is poor, **<u>but</u>** Jane is rich.

However + S +V	Jane is rich**; however,** Mike is poor.
	Mike is poor**;** Jane is rich**, however**.
On the other hand + S +V	Jane is rich. Mike**, on the other hand,** is poor.
	Mike is poor. Jane**, on the other hand,** is rich.

EXERCISE 3.
Directions: Use one of the following contrast connectives (although, however, while, but, nevertheless, on the other hand) to join the two sentences. Write one sentence with the connective between the two sentences. The connective that should be used next to each sentence is specified in parentheses.

1. (although) She worked hard, she didn't get the promotion.

   _____

2. (however) The weather forecast predicted rain all day. We decided to go to the beach anyway.

   _____

3. (while) John enjoys hiking. His wife prefers biking.

_____

4. (but) The movie was highly anticipated. It turned out to be a disappointment.

_____

5. (nevertheless) The team played poorly in the first half. They won the game in the end.

_____

6. (on the other hand) Some people love spicy food. Others can't handle the heat.

_____

6.4   WRITING

WRITING A PERSONAL STATEMENT FOR SCHOLARSHIP APPLICATION

A personal statement is a brief essay that provides insight into the applicant's background, experiences, goals, and personality. It is often required as part of a grant application and is used to evaluate the applicant's potential for success in the program. Before starting the scholarship application, it is important to spend time considering how to effectively write a personal statement. The personal statement should reflect who you are as a person and explain why you deserve to be awarded the scholarship. It should be a minimum of 200 words.

Consider the following questions to help get started:

1. What are your strongest personality traits that make you an ideal candidate?
2. Do you possess any qualities or skills that set you apart from others? What are your significant accomplishments and why do you consider them as such?
3. Can you recall a challenging time in your life and how you overcame it?
4. Are there any activities outside of school that demonstrate your ideal candidate qualities?
5. What are your most important extracurricular or community activities and why did you join them?
6. Why did you choose your area of study?
7. What are your career aspirations and dreams for the future?
8. How will receiving the scholarship help you achieve your personal goals?
9. Lastly, what has motivated you to attend/join [XYZ University]?

When writing the personal statement, ensure it is well-structured and stands out from other applicants. The statement should depict you as a person, a student, and a potential scholarship recipient. It is an opportunity to share your story.

A personal statement should include the following elements:

- **Introduction**: This should grab the reader's attention and provide a brief overview of the applicant's background and goals.

- **Academic and Professional Experience**: This section should highlight the applicant's academic and professional experience and achievements.

- **Relevant Skills and Qualities**: This section should highlight the applicant's relevant skills and qualities, such as leadership, teamwork, and problem-solving abilities.

- **Future Goals**: This section should outline the applicant's future goals and how the grant program will help them achieve those goals.

- **Conclusion**: This should summarize the key points of the personal statement and reiterate the applicant's interest in the grant program.

Tips on Writing a Personal Statement:

- **Take the time to think and brainstorm** before writing your personal statement, coming up with solid ideas and topics to discuss.

- **Develop an outline** for your statement to ensure a clear and organized structure.

- **Review and revise** your statement multiple times, removing unnecessary words and irrelevant details.

- **Avoid using empty phrases** and instead opt for active verbs to convey your experiences and achievements.

  Instead of saying "I was responsible for managing a team."
  Say "I successfully managed a team of 10 employees."

  Instead of saying "I had the opportunity to work on various projects."
  Say "I actively contributed to multiple high-profile projects and achieved measurable results."

  Instead of saying "I was involved in improving the company's processes."
  Say "I spearheaded process improvement initiatives that resulted in a 20% increase in efficiency."

  Instead of saying "I was part of a team that achieved our sales target."
  Say "I played a pivotal role in surpassing the sales target by 15% through strategic market analysis and proactive client management."

- **Pay close attention to spelling, grammar, and punctuation, and proofread** your statement thoroughly before submission.

- **Seek assistance** from resources such as your university's Writing Center or professional help to enhance the quality of your personal statement.

- **Include specific examples that demonstrate the applicant's skills and achievements.**

Example: "During my internship at XYZ Company, I developed a new software application that improved the efficiency of the company's data analysis process by 50%."

- **Avoid repeating information that is already included in the applicant's CV or resume.**

Example: "As you can see from my CV, I have extensive experience in programming."

- **Be concise and to the point, focusing on the most important information.**

Example: "My goal is to pursue a career in data science, and I believe that the grant program will provide me with the skills and experience needed to achieve that goal."

- **Use active voice and strong verbs to convey confidence and authority.**

Example: "I designed a new algorithm that improved the accuracy of the data analysis process."

- **Avoid using overly complex language or technical jargon that may be difficult for the reader to understand.**

Example: "Utilizing a comprehensive and multidisciplinary approach, I was able to successfully optimize the performance of the system."

- **Use a positive and enthusiastic tone to convey passion and motivation.**

Example: "I am excited about the opportunity to participate in the grant program and look forward to contributing my skills and experience to the program's goals."

PERSONAL STATEMENT TEMPLATE

[Full Name]
[Phone number] | [Academic email address] | [City, State]
[Name of the institution or organization]

Dear [Scholarship review committee],

[Begin by introducing yourself and include whether you're currently earning a degree or if you're a prospective college student.] [Include details about the organization, and how its mission or purpose aligns with you and your goals. Review why you're applying for the scholarship award and highlight how the funding can contribute to your academic and professional success.]

[In the second paragraph, discuss your significant academic or personal accomplishments and how they contributed to your success as a student or your growth as an individual.] [List the unique skills and qualities you possess and discuss how these align with the organization or the scholarship you hope to obtain.]

[Conclude by expressing your passion and interest in your area of study or prospective career to reaffirm your enthusiasm and what the financial award can mean for your success. Thank the committee for their time and consideration and invite them to contact you if they have questions.] [List your preferred contact methods.]

Best regards,
[Full Name]
[Signature]

Exercise 1. Choose the correct answer:**

1. **Which of the following is a good way to show your commitment to making a difference in your personal statement?**

    a) Stating that you want to use your skills to make a positive impact on the world.

    b) Sharing a specific example of how you have made a difference in someone else's life.

    c) Explaining how you plan to use your skills to make a difference in the future.

    d) All of the above.

2. **Which of the following is NOT a good way to start a personal statement?**

    a) A brief overview of your background and goals.

    b) A specific example that demonstrates your skills and achievements.

    c) A list of your academic and professional accomplishments.

    d) A statement of your passion for data science and your commitment to making a difference.

3. **Which of the following is NOT a good way to organize your personal statement?**

    a) Chronological order.

    b) Topical order.

    c) Problem-solution order.

    d) Narrative order.

4. **Which of the following is NOT a good way to end your personal statement?**

    a) A call to action.

    b) A thank-you for the opportunity to apply for the grant.

    c) A summary of your key points.

    d) A statement of your continued commitment to data science and making a difference.

5. **Which of the following is NOT a good way to end a personal statement?**

   a) A call to action that tells the reader what you hope to achieve with the grant.

   b) A thank-you for the opportunity to apply for the grant.

   c) A summary of your key points.

   d) A statement of your continued commitment to data science and making a difference.

6. **Which of the following is a good way to demonstrate your passion for data science in your personal statement?**

   a) Stating that you are interested in data science because it is a growing field.

   b) Explaining how data science can be used to solve real-world problems.

   c) Sharing a personal story that shows how data science has impacted your life.

   d) All of the above.

True or False:

   1. A personal statement should be no more than 1,000 words.

   2. A personal statement should not be written in the first person.

   3. A personal statement should be clear, concise, and engaging.

   4. A personal statement should use jargon or technical language.

   5. A personal statement can be written to apply for different grants.

   6. A personal statement should be tailored to the specific grant that you are applying for.

   7. A personal statement should be proofread carefully before submitting it.

   8. A personal statement should be submitted in PDF format.