ENGLISH FOR SPECIFIC PURPOSES (IT)

Classwork Unit 8: REVIEW for final Exam

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Abstract

This paper examines the integration of Artificial Intelligence (AI) within modern software development workflows. It explores the transition from manual calculations to automated algorithmic systems, highlighting the balance between technical hard skills and human-centric soft skills. Finally, it proposes a structured implementation framework to mitigate operational risks. This report is based on a series of mock examination tasks evaluating technical communication and AI theory.

Keywords: Artificial Intelligence, Software Engineering, Project Management, Mock Exam, Workflow Optimization.

Contents

Homework 8

Reading

Text

The word “computer” once referred to a person, typically a clerk, who performed tedious and repetitive calculations. This was the reality until the early pioneers of the mechanical age, such as Charles Babbage, began to envision machines that could automate the work. Babbage’s designs for the Difference Engine and the Analytical Engine were truly remarkable, though his full-scale prototype was never assembled in his lifetime.

Babbage and his colleague, Ada Lovelace, were the first to recognize the potential of using punched cards—a technology initially designed for weaving looms—to input instructions. This early form of programming was essential for demonstrating the theoretical feasibility of a universal calculating machine. Lovelace’s algorithms, designed for the Analytical Engine, are now regarded as the world’s first computer program.

The true shift to the electrical age did not ensue until the mid-20th century, particularly during the Second World War, when the need for rapid code-breaking became paramount. Projects like Bletchley Park led to machines that used thousands of vacuum tubes to process data, paving the way for the modern digital system based on binary code. These machines were initially highly secretive; the details of their construction and operation often remained declassified until decades later.

The modern concept of a large technology company that holds a patent and profits from exclusive royalties is, in many ways, derived from this period of rapid innovation and the competitive atmosphere that arose around it

Questions

1. What was the original meaning of the word “computer”?
    - A. An innovative mechanical machine.
    - B. A machine that processed binary code.
    - C. A person who carried out calculations.
    - D. A pioneer in engineering and design.
2. The purpose of the punched cards was to:
    - A. Provide the power source for Babbage’s prototype engine.
    - B. Help determine the feasibility of future digital systems.
    - C. Input the sequence of instructions for the calculating machine.
    - D. Help keep the details of the project declassify.
3. The transition to the electrical age was primarily influenced by:
    - A. The competitive pursuit of patent and royalties.
    - B. The need to speed up the process of calculation during wartime.
    - C. A gradual shift away from the tedious work of human clerks.
    - D. The desire to make a truly remarkable commercial machine.
4. According to the text, what is true about the Analytical Engine?
    - A. It was fully built and assembled by Charles Babbage.
    - B. It was one of the first machines to rely exclusively on binary code.
    - C. Its design demonstrated the theoretical possibility of a programmable machine.
    - D. It was immediately followed by a period of successful electrical machines.
5. The word ensue in the third paragraph is closest in meaning to:
    - A. be prevented
    - B. be designed
    - C. take place after
    - D. be derived from

Answers

My answers were

1. C
2. C
3. B
4. C
5. C

In total: 5 points must be acquired.

Use of English (Grammar and Vocabulary)

Tasks:

Instructions: For questions 6-10, read the sentences and choose the best word or phrase (A, B, C, or D) to complete the gaps.

6. If the lead candidate Q1_____ focused on soft skills, I Q2_____ him the job.
    - Q1:
        - A. wouldn't have
        - B. hadn't
        - C. hadn't been
        - D. wasn't
    - Q2:
        - A. might not offer
        - B. might not have offered
        - C. wouldn't offer
        - D. hadn't offered
7. The entire corporate network Q3_____ last night because one employee Q4:_____a malicious link in a Phishing email.
    - Q3:
        - A. infected
        - B. was infected
        - C. had infected
        - D. has infected
    - Q4:
        - A. clicked
        - B. was clicked
        - C. has clicked
        - D. is clicking
8. A Trojan Horse is often designed to appear harmless, _____ a Worm is specifically engineered to replicate itself and spread rapidly across a network.
    - A. similarly
    - B. in contrast to
    - C. whereas
    - D. even if
9. The company's sudden decision to _____ all security updates was met with concern, as this could create a serious vulnerability in the system.
    - A. implement
    - B. revert
    - C. establish
    - D. gravitate towards

Answers

My answers were

6. Q1: C; Q2: B
7. Q3: B; Q4: A
8. C
9. B

I might have acquired all points.

Listening

Questions

I have to listen to: https://www.youtube.com/watch?v=tyvMjvvrq74. Instructions: You will hear a discussion about the current uses and limitations of Artificial Intelligence (AI). For questions 11-15, choose the best answer (A, B, C, or D).

11. The speakers mention that algorithms are already helping people with which of the following daily tasks?
    - A. Writing complex programming code for Linux Kernel systems.
    - B. Detecting and diagnosing medical problems.
    - C. Preventing the spread of computer Malware.
    - D. Creating new patents for inventors.
12. A common concern about machine learning algorithms is that they require huge amounts of data, which primarily raises issues about:
    - A. The high cost of electrical power.
    - B. The need for constant human annotation.
    - C. Privacy concerns related to personal data.
    - D. The inability of the OS to manage the buffer.
13. According to the discussion, what key human ability is currently beyond the limitations of today's AI?
    - A. Performing tedious and repetitive tasks.
    - B. Making difficult decisions in law enforcement.
    - C. Experiencing and understanding human Empathy.
    - D. Finding theoretical feasibility in a design.
14. The speakers use the phrase "take something for granted." This means they think people don't fully appreciate the importance of:
    - A. The invention of the abacus.
    - B. The technology that they use every day.
    - C. The role of the workhorse in a team.
    - D. The need to declassify historical documents.
15. What conclusion is drawn about the future of AI in the workplace?
    - A. AI will require all junior staff to submit a new resume.
    - B. Humans will need to inquire about new professional standards.
    - C. AI will likely take over all task-oriented roles quickly.
    - D. Humans must decide how they will implement this new technology responsibly.

Answers:

11. B
12. C
13. C
14. B
15. B -> Wrong. Correct: D.

Part 4: Writing (5 Points)

Task

Instructions: Write a formal email to your manager based on the prompt below. Your email should be between 150–200 words.

Prompt: Formal Email You recently read a document detailing new changes to your team's workflow, including a proposed shift to a new, complex project. Your manager has asked the personnel to share any concerns. Write a formal email to your manager to inquire about the new project. In your email, you must:

1. Explain your aspiration to take on challenging roles (using wish/hope).
2. Compare and contrast the hard skills vs soft skills that will be most important for the success of this project (using appropriate linking words).
3. Suggest a training plan, explaining what would happen if the training was not provided (using a second or third conditional).

Sample:

Subject: Inquiry Regarding Proposed Project Workflow Changes – [Your Name]

Dear Mr. Snoop Dog,

Thank you for sharing the document detailing the proposed shift to the new, complex project workflow. I appreciate you inviting the team to share any concerns, and I am writing to inquire about the specific operational changes involved.

I wish to express my strong enthusiasm for taking on this challenging new role. I have always hoped for an opportunity to expand my responsibilities and apply my advanced skills to a higher-stakes project, and this appears to be the perfect chance.

I anticipate that success will require a balance of skills. Initial implementation will rely heavily on specific hard skills, such as [mention a specific technical skill]. In contrast, the long-term sustainability and strategic planning aspects will require robust soft skills, including critical thinking and stakeholder negotiation. Whereas our current team excels in technical execution, we may need support on the soft skill side.

To mitigate risk, I propose a mandatory training session focused on the new project management methodology. If we didn't provide this comprehensive training, the team would likely face significant efficiency losses and a higher probability of errors during the first quarter.

I am eager to contribute to this project's success and look forward to discussing the next steps in detail.

Sincerely, [Your Name] [Your Title]

Written letter

Dear Mr. Snoop Dog,

I appreciate you sharing the details regarding the new project workflow. I am writing to inquire about the specific operational changes involved so that I may prepare to deliver the best results for our stakeholders.

I hope to take on the middle developer role to make a more profound contribution to the team. I wish I were a senior developer already so I could drive the product delivery even faster, but I am eager to apply my advanced skills to this higher-stakes environment.

Success will rely on a balance of competencies. Unlike my soft skills, such as stakeholder negotiation and adaptability, my hard skills in CI/CD and Scalable System Design will be vital for the initial implementation. Whereas our team excels in technical execution, the long-term sustainability of the project will require robust communication to navigate stakeholder needs.

To mitigate risks, I propose a mandatory training session on the new project methodology. If we did not provide this comprehensive training, the team would likely face significant efficiency losses and a higher probability of errors during the first quarter.

I look forward to discussing these steps with you.

Yours sincerely,

Sergei Ivanov

Junior Software engineer