14 Software Maintenance 1

software maintenance

unstructured code

repair

perfective maintenance

Good Morning Employees,

I understand that most departments are practicing **corrective maintenance**. This practice should continue, but I think it is **insufficient**. I believe we need to focus on **adaptive maintenance** as well. According to the **law of continuing change**, this will allow us to grow more rapidly.

Developing new software is important. But to stay competitive, we must **enhance** our existing software, too. New **releases** are the best way to keep customers interested in our products. This will require engineers to practice **perfective maintenance**. Always **repair** problems as soon as they are identified.

However, engineers must also remember the **law of increasing complexity**. If software becomes too complex, it becomes difficult to maintain. Engineers should know when to update and when to write a new program.

Unstructured code will no longer be tolerated. It causes confusion and makes further updates more difficult. Remember, **preventive maintenance** is the strongest software maintenance practice.

-Clinton Bellman
CEO, ShorSoft Corporation
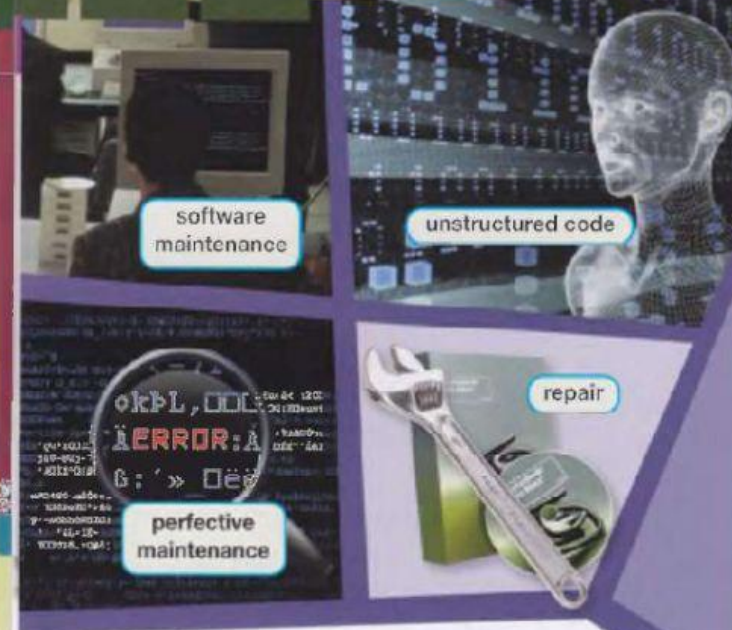
Get ready!

1 Before you read the passage, talk about these questions.

1 What are the benefits of software maintenance?
2 What are some different types of software maintenance?

Reading

2 Read the memo. Then, choose the correct answers.

1 What is the purpose of the memo?
   A to warn employees about maintenance risks
   B to reprimand employees who are not following maintenance procedures
   C to show techniques for software maintenance
   D to inform employees about new policies

2 Which of the following is NOT something that the CEO wants engineers to do?
   A Avoid unstructured code.
   B Focus more on corrective maintenance.
   C Get existing software ready for new releases.
   D Increase preventive maintenance measures.

3 According to the email, how can engineers enhance existing software?
   A creating less unstructured code
   B using templates from other software programs
   C repairing problems in the software
   D practicing corrective maintenance

Vocabulary

3 Match the phrases (1-8) with the definitions (A-H).

1 ___ adaptive maintenance
2 ___ corrective maintenance
3 ___ law of continuing change
4 ___ law of increasing complexity
5 ___ perfective maintenance
6 ___ preventive maintenance
7 ___ software maintenance
8 ___ unstructured code

A the practice of accommodating new user requirements
B the practice of repairing software faults
C the format of a system with no clear order
D the practice of making systems easier to maintain
E the process of fixing faults and making improvements in software
F states that a system should undergo modification until it is no longer cost-effective
G the practice of updating software according to changes in environment
H states that a structure becomes more complex with every change

Write a word that is similar in meaning to the underlined part.

1 The attributes of an older system may he <u>unsuitable or not strong enough</u> to work on updated operating systems.
   _ _ s _ _ t _ _ _ _ t

2 A software engineer should <u>fix</u> any problems he or she finds in a code.   _ _ p _ _ r

3 Each new <u>updated version of existing software</u> should come with some modifications.
   _ _ l _ a _ _

4 Consumers of software are happy when engineers <u>improve</u> existing components in new versions of software products.
   _ n _ _ n c e

⑤ 🎧 Listen and read the memo again. Why does the CEO want engineers to perform adaptive maintenance?

Listening

⑥ 🎧 Listen to a conversation between two engineers. Mark the following statements as true (T) or false (F).

1 _ The man wants to start with corrective maintenance.

2 _ The engineers are adding new functionality to old software.

3 _ The woman discovered unstructured code in the software.

⑦ 🎧 Listen again and complete the conversation.

Engineer 1:	We have 1 _____ _____ to do on that accounting software.
Engineer 2:	Yeah. I'm really 2 _____ _____ all of that work.
Engineer 1:	Neither am I. But I think if we make a plan, we can save ourselves a lot of time.
Engineer 2:	That's a good idea. 3 _____ , _ _ fix all of the problems with the software.
Engineer 1:	Okay. We can start with a round 4 _____ _____ , then.
Engineer 2:	Exactly. Next, we need to 5 _____ _____ all of the code.
Engineer 1:	Why do we need to do that?
Engineer 2:	So that it can 6 _____

Speaking

⑧ With a partner, act out the roles below based on Task 7. Then, switch roles.

Student A: You are an engineer. Talk to Student B about:
- software maintenance that is needed
- reasons for particular types of maintenance

Student B: You are an engineer. Talk to Student A about software maintenance.

Writing

⑨ Use the conversation from Task 8 to complete the memo from a project manager to an engineer.

Hi Karen,

I'm pleased with the new programs your team is developing. However, I want you to shift your focus to software maintenance for a few weeks.

On the GrayWhite 9.7 software, we need _____.
This is because _____ _____.

On the SP008 software, we need _____.
This is because _____ _____.

On the FANFARE II software, we need _____.
This is because _____ _____.

-Arnold