

Software maintenance

CS-370: Software Design and Development

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Tasks in software maintenance

- **Perfective** tasks: “improve existing features and add new ones.”
- **Adaptive** tasks: “modify existing features and add new ones.”
- **Corrective** tasks: “fix bugs”
- **Preventive** tasks: “restructure the code or learn more about the code to make it more maintainable.”

Question 1: Categorizing a software maintenance task

- “Rewrite a method because the program grew so large that the old version of the method wasn't fast enough.”

Is the above task *Perfective*, *Adaptive*, *Corrective*, *Preventive*, or something else?

Question 1: Categorizing a software maintenance task

- “Rewrite a method because the program grew so large that the old version of the method wasn't fast enough.”

Answer: **PERFECTIVE** since it improves an existing feature or **CORRECTIVE** if you believe the slow-performance is a bug or a change in the way the program is being used.

Question 2: Categorizing a software maintenance task

- “Rewrite a 715-line method to make it smaller.”

Is the above task *Perfective*, *Adaptive*, *Corrective*, *Preventive*, or something else?

Question 2: Categorizing a software maintenance task

- “Rewrite a 715-line method to make it smaller.”

Answer: **PREVENTIVE** since it makes the code easier to maintain.

Question 3: Categorizing a software maintenance task

- “Add icons to display on the new operating system's startup page.”

Is the above task *Perfective*, *Adaptive*, *Corrective*, *Preventive*, or something else?

Question 3: Categorizing a software maintenance task

- “Add icons to display on the new operating system's startup page.”

Answer: **ADAPTIVE** since it deals with a change to the environment.

Question 4: Categorizing a software maintenance task

- “Rewrite a method because it uses an unnecessarily complicated algorithm.”

Is the above task *Perfective*, *Adaptive*, *Corrective*, *Preventive*, or something else?

Question 4: Categorizing a software maintenance task

- “Rewrite a method because it uses an unnecessarily complicated algorithm.”

Answer: **Something else**. If the code works, leave it alone. You could add comments or documentation to the code if either are lacking or deficient.

Question 5: Categorizing a software maintenance task

- “Change the *SaveSnapshot* method because it isn't saving files in BMP format correctly.”

Is the above task *Perfective*, *Adaptive*, *Corrective*, *Preventive*, or something else?

Question 5: Categorizing a software maintenance task

- “Change the *SaveSnapshot* method because it isn't saving files in BMP format correctly.”

Answer: **CORRECTIVE**. You are fixing a bug in the method.

Question 6: Categorizing a software maintenance task

- “Change the SaveSnapshot method so that it can also save files in PNG format.”

Is the above task *Perfective*, *Adaptive*, *Corrective*, *Preventive*, or something else?

Question 6: Categorizing a software maintenance task

- “Change the *SaveSnapshot* method so that it can also save files in PNG format.”

Answer: **PERFECTIVE** since this is adding a new feature to an existing method.