# **Seeing Triple**

Inventors have struggled for years to create displays that *can conjure* vivid three-dimensional images that users *can manipulate* and interact with. Chemists *would exploit* such marvels to design new drug molecules. Oil and gas explorers *would see* exactly where to aim their drills. Surgeons *would test* procedures before performing an operation. But shortcomings such as a flickering image, a narrow angle of view or the need to wear special glasses have bedevilled the devices.

Two companies have recently mixed their own technology with off-the-shelf components, including the digital Light Processor (DLP) chip from Texas Instruments, to create interactive systems called 3-D volumetric displays that *will overcome* these limitations. The two firms’ products are just now transitioning from the laboratory to commercial models.

**Modal Verbs**

We use modal verbs to add meaning to the main verb. They are followed by infinitive without *to.* Modal verbs are used in the following ways:

|  |  |  |
| --- | --- | --- |
| **Modal** | **Examples** | **Uses** |
| **Can** | **Can we debug programs using Java technology?** **We can’t fix it.****Can I smoke here? Can you help me?** | **Habilidad/Posibilidad** **Falta de habilidad /** **imposibilidad****P/ pedir permiso/****Pedidos** |
| **Could** | **Could I borrow your dictionary?****We could try to fix it ourselves.****When he was a child he could …** | **P/ pedir permiso****Sugerencias****Habilidad en el pasado** |
| **May** | **You may leave. May I close the program?****China may become a major economic power**. | **Permission (formal)****Possibility** |
| **Might** | **They might be sleeping now**. | **Posibilidad**  |
| **Must** | **We must say good-bye now**.**They mustn’t say that in class**. | **Necesidad / Obligación****Prohibición** |
| **Should** | **You should switch it off.****I think we should check everything again**. | **P/decir lo que es correcto****P/ recomendar/consejo** |
| **Will****(Future)** | **I can’t print it. *I’ll* take my memory stick with me.*****I’ll* phone you first thing on Monday.****Computers will be really cheap in the future.** | **Decisiones instantáneas****Promesas****Predicciones** |
| **Would** | **Would you repair it, please?** | **Pedidos** |
| **Need** | **You needn’t/don’t need to learn HTML to build your own website.** | **Necesidad/Falta de necesidad** |

1. **Complete the following sentences with a modal. In some of them more than one option is possible.**
2. With the Java compiler technology, we ………. compile programs.
3. It’s late. You ………… switch the computer off.
4. Computers …………. be smaller in twenty years.
5. You …………. run the anti- malware program once a week at least.
6. My computer is great. I …….…… even run 3D programs in it.
7. With Java Remote Method Invocation we…………. manipulate remote objects.
8. To repair it, you ………... switch it off first.
9. We ……….…. use COBOL to write this program. We can’t write it with BASIC.
10. We …………… try writing it with C++.
11. If computers were cheaper, we ………… all have one.
12. He ……… run the ‘cleaner’ once a month.
13. She ……… log off. She has to study.
14. They …….. log in to enter that page.
15. I ………..love to have a netbook.
16. You ……… buy a netbook or a notebook. There isn´t such a big difference in the price.

Modal verbs act as auxiliaries…

Negative form. Long form Short form.

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| --- | --- | --- | --- |
| S |  **cannot** **could not** **may not** **might not****must not** **should not**  | verb(infinitive) | … |

|  |  |  |  |
| --- | --- | --- | --- |
| **S** | **can’t****couldn’t****mustn’t****shouldn’t****needn’t** |  verb(infinitive) | ..... |

|  |  |  |  |
| --- | --- | --- | --- |
| **Can****Could****May****Might****Must****Should****Will**  | S | verb(infinitive) | …? |

|  |  |  |
| --- | --- | --- |
| Yes, | S | can.could.may.must. |
| No, | S | can’t.couldn’t.may not.mustn’t. |

Interrogative form. Yes/No questions.

Wh- Questions.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **What****Where****Why****When****How****(Who)** | **Can****Could****May****Might****Must****Should****Will**  | S | verb(infinitive) | …? |

1. **Write negative sentences**.
2. With the Java Remote Method Invocation we ………. compile programs.
3. Computers ……. be smaller in two months.
4. You …….. run malicious programs.
5. My computer is old. I …… run 3D programs in it.
6. With Java compiler technology we…………. manipulate remote objects.
7. If you want to repair it you ………….. switch it off. It must be on.
8. We must use Pascal to write this program. We ……….. write it using BASIC.
9. We ……… compile programs using C++.
10. With Java Developer, you ……create objects.
11. If computers were more expensive, we ……. have one.
12. He …… run that program, it has a virus.
13. You ……. open the case.
14. They ……... use the computers. They’re out of order.
15. You …….document your applications with the Java compiler.
16. I ……. tell you. It’s a secret
17. They ……. understand. It’s really difficult.
18. **Turn the following sentences into the interrogative form. Answer the questions.**

***E.g. We can compile programs with the Java compiler technology.***

***Can we compile programs with the Java compiler technology? Yes, we can.***

1. I can switch off the computer.
2. Computers won’t be smaller in two months.
3. I should run the anti- malware program once a week at least. (you as subject)
4. My computer is ten years old. It can’t run 3D programs.
5. I may create forms, reports, and graphics with Java Developer.
6. All people would have a computer if they were cheaper.
7. They shouldn’t run malicious programs.
8. She must log in to enter that site.
9. We’d love to have a netbook.
10. We may document our applications with the Javadoc documentation tool.
11. Java will become a mainstream technology in the future.
12. You shouldn’t switch the computer off if you want to repair it.
13. We must use Pascal to write this program.
14. We wouldn’t have a computer, if they were more expensive.
15. **Write Wh- questions using the prompts**
16. I can switch on the computer at 10. **When ….? ……**
17. Computers will be smaller in twenty years. **When ……….? ……..**
18. Computers will be similar to watches in thirty years. **What ………. like in thirty years? ……….**
19. I should run the anti- malware program once a week at least. **How often ……? …………**
20. My computer can’t run 3D programs. **What kind …………? ………….**
21. I must switch it off first. **What ………..? ……**
22. We can use BASIC or C to write that program. **What languages ………? …….**
23. We should use C++ or C#. **What …….? …………**
24. He can’t write it with BASIC. **Why …………? Because he needs another program.**
25. You must close all programs to run the antivirus**. What ………? You must close all programs.**
26. I may create forms, reports, and graphics with Java Developer. **What ………..? ……….**
27. All people will have their own computer in 2020. **When ……….? ………..**
28. I must run the ‘cleaner’ once a week. **How often …………? ……….**
29. She must log off. **Why …………? It’s late.**
30. We can compile programs with the Java compiler. **What ……? We can compile programs.**
31. They shouldn’t run malicious programs. **What kind ………….? ……………**
32. She must log in to enter that site. **What ………..? Log in.**
33. Java will become a mainstream technology in the future. **When ………? ………**
34. You shouldn’t switch the computer off if you want to repair it. It must be on. **Why ...? Because it must be on.**
35. We must use Pascal to write this program. **What language …….? …………**
36. We can’t compile programs using C++. **Why ………….? Because C++ isn’t a compiler**.
37. He shouldn’t run that program. **Why ……….? Because it´s not the appropriate one for that task.**
38. **Complete the following Sentences with one of the options.**
39. This (should /can) \_\_\_\_\_\_\_\_ be dangerous if you don't have the right equipment.
40. He (shouldn’t / can’t) \_\_\_\_\_\_\_ yell at his parents. It's not nice.
41. (Should / Can) \_\_\_\_\_\_\_\_ I borrow your pen for a minute?
42. (Can /Must) \_\_\_\_\_\_\_\_ you speak Japanese? No, I can't.
43. It's late. I (should /can) \_\_\_\_\_\_\_\_ get going.
44. I saw that pen this morning... it (can /must)\_\_\_\_\_\_\_\_ be around here somewhere.
45. I (shouldn’t /can’t)\_\_\_\_\_\_\_\_ understand what he's saying.
46. Java (can / cannot) \_\_\_\_\_\_\_\_\_\_\_run on any operating system.
47. They (can/might)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ be away for the weekend but I'm not sure.
48. You (may/can’t) \_\_\_\_\_\_\_\_\_\_ leave now if you wish.
49. (Could/May)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ you open the window a bit, please?
50. (May/Can)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ you swim?
51. Listen, please. You (must not / could not)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  speak during this exam.
52. I (‘ll / mustn’t ) \_\_\_\_\_\_\_\_\_\_\_\_\_ tell you tomorrow.
53. He (can’t / should) …………………………. fix it. He(`ll /can’t) ……………….call the technician.
54. When you are working inside the database, I believe that you (should/ mustn´t) ………………..only resort to Java when you (cannot / will) ……………… accomplish a task in PL/SQL. As you ('ll / won´t) …………… see, there is very little you (cannot / must) ……………………….accomplish with PL/SQL.
55. A language's designers and users (must/can’t) ……………….construct a number of artefacts that govern and enable the practice of programming.
56. **In pairs or in group, discuss at least two things.**
	1. You can now do more easily because of the Internet.
	2. You could do better if you had a faster internet connection.
	3. That may/might happen to the internet in the next ten years.
	4. You must consider when you develop a program.
	5. You should take into account when choosing which PC to buy.