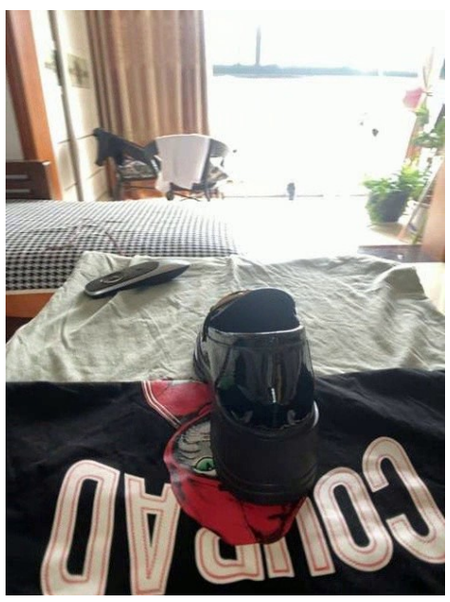
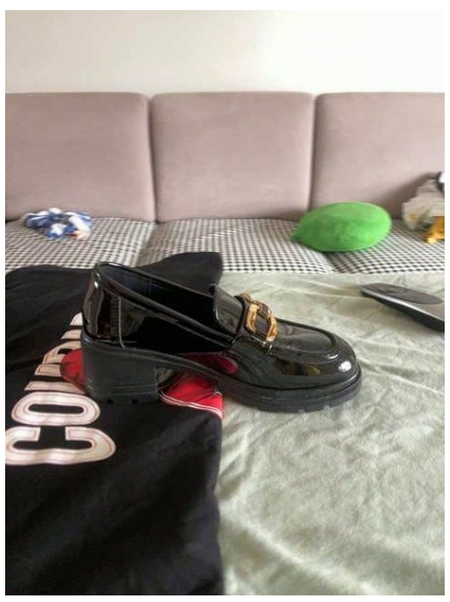
(a) MindCube | Viewpoint Change

In which direction did the camera move between these views?



View 1



View 2

Model	First-run answer
GPT-6 Astra	D
GPT-6 Sol	B
Fable 5.1	A
Gemini 3.8 Flash	A
Qwen 3.8 Max	A
Qwen 3.5 397B	C
Qwen 3.5 27B	A
Opus 5.5	A
DeepSeek-1017	A

Reference A: diagonally forward and right

(b) MMSI-Bench | Relative Direction

If the open cupboard faces north, where is the cooking area?



View 1



View 2

Model	First-run answer
GPT-6 Astra	A
GPT-6 Sol	A
Fable 5.1	A
Gemini 3.8 Flash	D
Qwen 3.8 Max	C
Qwen 3.5 397B	B
Qwen 3.5 27B	B
Opus 5.5	D
DeepSeek-1017	D

Reference A: northwest

(c) 3DSRBench | Object Orientation

Which side of the person is facing the camera?



Model	First-run answer
GPT-6 Astra	B
GPT-6 Sol	B
Fable 5.1	C
Gemini 3.8 Flash	B
Qwen 3.8 Max	B
Qwen 3.5 397B	C
Qwen 3.5 27B	B
Opus 5.5	C
DeepSeek-1017	C

Reference B: left