How smart are lobsters from the standpoint of:

1. Problem solving

2. Recognizing faces

3. Memory

Lobsters are **considerably smarter than a simple reflex machine**, Doc—but their intelligence is specialized around finding food, navigating shelter, detecting danger, and managing other lobsters.

1. Problem-solving: moderate, practical intelligence

Lobsters can learn associations—such as connecting a particular light, odor, location, or action with food or danger. American lobsters have been trained to discriminate between lights of different intensities, demonstrating genuine learned choice rather than a fixed reflex. Related decapod crustaceans can learn routes through fairly complex mazes, progressively reduce wrong turns, and remember the solution later. (ScienceDirect)

They're probably capable of:

- Learning where food regularly appears
- Discovering routes around obstacles
- Learning how to enter or manipulate simple feeding devices
- Remembering favorable shelters
- Changing tactics after an unsuccessful attempt

What hasn't been demonstrated convincingly is flexible, insight-based problem-solving comparable to an octopus, crow, rat, or primate. I'd rate a lobster around **4–5/10 among animals generally**, but fairly capable for a crustacean.

2. Recognizing faces: probably not human faces

There is no strong evidence that lobsters visually recognize individual human faces the way dogs, sheep, fish, or some insects can.

However, American lobsters **do recognize individual lobsters**. In dominance experiments, they remembered particular opponents and behaved differently toward a lobster they had previously encountered. The recognition appears to rely heavily on chemical information carried in urine—not on studying the other lobster's "face." (ScienceDirect)

So your aquarium lobster may learn that **your approach predicts food**, especially through vibration, movement, shadow, timing, and possibly chemical cues. It might respond specifically and consistently to you, but that would not prove it recognizes your facial features.

My rating:

- Recognizing individual lobsters: **quite good**
- Recognizing a human face visually: **unproven and probably poor**
- Recognizing a familiar human routine or presence: **quite plausible**

3. Memory: surprisingly respectable

Lobsters and other decapods possess both short-term and longer-term memory. They can retain learned associations, social information, environmental context, and threat-related experiences. Their brains contain higher-order olfactory and memory-processing regions called hemiellipsoid bodies, which are evolutionarily related to the mushroom bodies involved in complex learning in insects. (PubMed)

The exact duration depends on what is being remembered. Evidence across decapods shows memory lasting from hours to weeks, and socially important memories in lobsters can persist long enough to influence later encounters. It would be reasonable to expect a captive lobster to remember:

- Its shelter and tank layout
- Feeding places and feeding times
- Repeated handling or disturbing events
- Individuals it regularly fights with
- Cues predicting food or danger

My overall thumbnail assessment:

Ability	Lobster level
Simple associative learning	Strong
Navigation and routine learning	Moderate–strong
Novel problem-solving	Moderate
Remembering other lobsters	Strong
Recognizing human faces	Little or no evidence
Long-term memory	Real, but incompletely measured

So, in ordinary language: **a lobster is not a brilliant improviser, but it is an observant, trainable animal with a meaningful memory—not an eating machine operating entirely on instinct.** In that big lobster aquarium you've been considering, I would fully expect the resident to learn your feeding routine, recognize tank events, develop favorite areas, and visibly anticipate what happens next.

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