

GSM8K experimnt CoT Prompt Exemplars

Question: There are 15 trees in the grove. Grove workers will plant trees in the grove today. After they are done, there will be 21 trees. How many trees did the grove workers plant today?
 There are 15 trees originally. Then there were 21 trees after some more were planted. So there must have been $21 - 15 = 6$. The answer is 6.

Question: If there are 3 cars in the parking lot and 2 more cars arrive, how many cars are in the parking lot?
 There are originally 3 cars. 2 more cars arrive. $3 + 2 = 5$. The answer is 5.

Question: Leah had 32 chocolates and her sister had 42. If they ate 35, how many pieces do they have left in total?
 Originally, Leah had 32 chocolates. Her sister had 42. So in total they had $32 + 42 = 74$. After eating 35, they had $74 - 35 = 39$. The answer is 39.

Question: Jason had 20 lollipops. He gave Denny some lollipops. Now Jason has 12 lollipops. How many lollipops did Jason give to Denny?
 Jason started with 20 lollipops. Then he had 12 after giving some to Denny. So he gave Denny $20 - 12 = 8$. The answer is 8.

Question: Shawn has five toys. For Christmas, he got two toys each from his mom and dad. How many toys does he have now?
 Shawn started with 5 toys. If he got 2 toys each from his mom and dad, then that is 4 more toys. $5 + 4 = 9$. The answer is 9.

Question: There were nine computers in the server room. Five more computers were installed each day, from monday to thursday. How many computers are now in the server room?
 There were originally 9 computers. For each of 4 days, 5 more computers were added. So $5 * 4 = 20$ computers were added. $9 + 20$ is 29. The answer is 29.

Question: Michael had 58 golf balls. On tuesday, he lost 23 golf balls. On wednesday, he lost 2 more. How many golf balls did he have at the end of wednesday?
 Michael started with 58 golf balls. After losing 23 on tuesday, he had $58 - 23 = 35$. After losing 2 more, he had $35 - 2 = 33$ golf balls. The answer is 33.

Question: Olivia has \$23. She bought five bagels for \$3 each. How much money does she have left?
 Olivia had 23 dollars. 5 bagels for 3 dollars each will be $5 * 3 = 15$ dollars. So she has $23 - 15$ dollars left. $23 - 15$ is 8. The answer is 8.

Table 21: GSM8K CoT Prompt Exemplars

H. Limitations

The major limitation of the ChunkKV is that it uses fixed-size token groups for chunking. While adaptive chunking methods could potentially improve performance, they would introduce significant inference latency. Therefore, finding a balance between the chunking method and inference latency is key to improving KV cache compression.

I. Licenses

For the evaluation dataset, all the datasets, including, GSM8K (Cobbe et al., 2021), LongBench (Bai et al., 2024) are released under MIT license. NIAH (Kamradt, 2023) is released under GPL-3.0 license.