Task Num	Task	Natural Language Reasoning for in-context example
1	visual_manipu lation	"Find an object that has a similar property as Object 1 in the environment.", "Object 4 has Long Rectangle and this doesn't match the requirement, hoewever, it has similar color and texture. There are no other objects that is more matched to object1. Then found 4 to pick up.", "Find an object that has a similar property as Object 2 in the environment.", "Object 3 has similar color and similar shape, not exactly same. but its ok because image description cantains inaccurate information. Then found 3, "As an output, the robot picks up 4 and puts it on 3."
2	scene_underst anding	"The task is red swirl object in frame0 into purple object.", "First, have to find red swirl object in frame0 and look for the founded object and purple object in the environment.", "Find a red swirl object object in frame0.", "Object id 1 has red color. but it doesn't have swirl texture. but this is ok. Found object 1.", "Look for objects that has these property from object 1 in environment which has stripe.", "Object 4 is similar to object 1 because it has red and white color and stripe.", "Object 4 should be picked up.", "Next, look for purpole object from prompt in the environment.", "Find object id 3 in the environment, a purple solid object. Object 5 is also possible, but it has dotted texture.object 3 is more suitable for purple object in the prompt. Then found object 3", "As an output, the robot picks up 4 and puts it on 3."
3	rotate	"The task is to rotate the green object (object1) 30 degrees.", "First, let's find a green object (object1) in the environment.", "Found object 2 in the environment, this is an object which should be rotated.", "The robot should take pick_and_place action and interaction point is center of the object.", "Chose center_position and same position for pick and place action."
4	rearrange	"The task is to arrange objects in same position as descrived in frame0", "frame0 contains several images of objects in one scence and information of object position", "The task is rearrange objects like frame0 using information of object position", "Look for object id 1 in the current environment.", "Object 3 is similar to 1. Object 4 is similar to 2.", "The task is arrange objects in the environment like frame0 then first action is to pick up from position 3 and put it at position 1.", "Second action is to pick up from position 4 and put it at position 2"
5	rearrange_the n_restore	"The task is to rearrange objects to match the setup described in frame0, and then restore them.", "frame0 contains descriptions of objects in specific positions.", "The goal is to first rearrange the objects in the environment to match frame0, then restore them to their original positions.", "In the current environment, object at object 3 is similar to the one described at oboject 1 in frame0, and object at position 4 matches the one at object 2 in frame0.", "The first action is to pick up object from position 3 and place it at position of object 1.", "The second action is to pick up object from position 4 and place it at position of object 2.", "After rearranging, the objects need to be restored to their original positions, which means picking from current position of object 1 and placing back at position 3, and picking from current position of object 2 and placing back at position 4."
6	novel_adj	"Focusing on description of images, the definition of daxer is thinness", "Find the thinness vertion of object 7 in the environment", "You find object 10", "Search for object 8 in the environment", "You find object 9.", "The task is put object 10 into onject 9."
7	novel_noun	"The task is to put a blicket into a dax.", "Have to find corresponding object to blicket and dax", "blicket is defined in a description of object 2, heart, grey and granite.", "Look for an object which is similar to object 2, however, there is no such oject.", "In this case, you hava to find which is not totally qualified as blicket and exclude them and chose remains", "object 2 and 5 is not defenetly qualified because pan and letter M cannot be same as heart shape of object 2", "object4, shape round can be similar to heart object. Then chose 4", "Then, you found object 4 as blicket", "Next, you have to find similar object to object 1 in the environment as dax", "You found object 3 in the environment which has pan shape.", "As a result, the robot pick 4 and put it on 3."
11	follow_order	"The task is to move objects following multiple frames.", "Each frames are captured from front view, then each coordinates shows how they are stacked", "green object is object 10 in the environment", "red and white object is object 12 in the environment", "rainbow object is object 11 in the environment", "Check carefly coordinates to find out how each object is stacked in each frames, same x coordinate means they are stacked", "In the frame1, green object is on red and white object", "First, put the green object on the red and white object, considering thier coordinates in frame0", "In the frame2, green object is on rainbow object", "Second put the green object on the reinbow object, considering thier coordinates in frame0", "Then, the final action output is put 10 on 12 and put 10 on 11"
12	sweep_withou t_exceeding	"The task is sweep blue and yellow polka dot object into red and blue object without exceeding yellow and blue object.", "When moving an object with a sweep motion, start from a point with a little margin in the opposite direction of the movement.", "First, find blue and yellow polka dot object in the environment.", "Found 6, 7, and 8. They matched the description of object 1. but we need sweep only two, so we ignore 8.", "Second, find object 2. Found object 4.", "Third, find object 3. Found object 5.", "Then you are done matching process.", "Next step is make action plan.", "The task is sweep object 6,7,8 into object 2 without exceeding object 3.", "According to thier coordinates, the object 5 is already in the object 4. So this means if we put object 6, 7 right under object 5, then 6,7,and 8 are in onject 4. The task is solved.", "This means object 6,7 should be right under object 3, however, object 6,7 cannot be touched with object 5.", "Also, the task requires sweep action, so the action parameter in the output should be "sweep".", "Focus on object 6. The robot should sweep from bottom to top but it has to stop below the object 5.", "Focus on object 7. The robot should sweep from bottom right to top left but it has to stop below the object 5. ", "This task can be done with only one-step sweep motion because there is no obstacles."
15	same_shape	"The task is to find objects in the environment with a profile similar to object 1", "Found object 2 3 4 which has similar profile, this doesn't has to be same shape, have to be similar word", "Shape A and shape B may have similar shape, you have to consider many posibilities", "Object 2 is a object where other similar objects should be placed at, becasue it is not block which also means this should not be moved and "it" in the prompt means object 2", "It doesn't have to be coantainer or frame to be fixed", "Look for objects should be picked, object 3 and 4 which is block,block means square shape as object 1, They have different color but it doesn't matter in this task because it have to have one common property at least.", "Found 3 and 4 as object that should be picked.", "Pentagon should not be picked because it has apparrently different shape. But frame and square has common concept.", "As a result, the robot should pick up 3,4 and put them in 2."
16	manipulate_ol d_neighbor	"The task has two steps. First, pick object similar to object 1 and put it in an object similar to object 2. Second, pick object in east side of object which is similar to object 1 and put it in object similar to object 2.", "Find object which is similar to object 1, from the environment. Object 4 is possibility because it has green and stripe.", "Find object which is similar to object 2, from the environment. Object 9 is possibility because it has square shape and .", "The first step is pick object 4 and put it in object 2.", "Next, find an object in east side of object which is similar to object 1", "East side means right side and plus x axis direction in this simulated environment", "There is a object 4 similar to object 1. In the east side of the object 4, there is a object 5 based on thier "center_position"", "So the second step is pick 5 and put it in object 9.", "As an output, pick 4 and put it in 9, pick 5 and put it in 9"
17	pick_in_order_ then_restore	"The task is put object A into B then C and finally put A into its original position.", "The task is put object 1 into 2, then put object 1 into 3, then put object 1 into its original container.", "Then find object 1 in the environment. Found object 4.", "Then find object 2 in the environment. Found object 6.", "Then find object 3 in the environment. Found object 7.", "Then find its original container in the environment. Considering the current coordinates of object 4, object 4 is placed on 5. Then the original container is object 5.", "All information which is nesassary to achive the task is corrected.", "The task is put object 4 into 6, then put object 4 into 7, then put object 4 into 5"