Score Sheet Explanation

Motivation & Structure Explanation

The rulebook is designed to ensure every team can score points, as tasks are divided into smaller subtasks, making it more accessible. Bonuses incentivize completing full tasks and a variety of tasks, ensuring the best team wins and discourages gaming the system. Consistent scoring across tasks is achieved by reusing skills, and the modular structure facilitates statistical analysis over time to balance skill difficulty and rewards.

Reading a Task

Begin with the "**Main Task**" Group, then expand from there. Tasks are divided into Sequential and Selection groups. In Sequential subgroups, complete all skills in order; in Selection subgroups, choose one skill to complete. Permanent groups require maintaining all skills throughout the task.

Unlocking Bonuses

Bonuses are awarded for completing **all** skills in a group. Sequential groups are easier to complete than Selection groups. In Selection groups embedded in Sequential ones, completing one skill from the Selection group counts as completing the whole subgroup.

Minimal Example

Group (G-1) Example Selection Group	**Type:** Selection	**Bonus:** 100
77 Skill X		15
78 Skill Y		30

Group (G-2) **Main Task:** Example Sequential Group	**Type:** Sequential	**Bonus:** 50
75 Skill A		20
76 Skill B		25
G-1 *Example Selection Group*		

This example illustrates the scoring system using a Sequential group with skills A and B, and a Selection group with skills X and Y. Successfully completing A, B, and either X or Y in one attempt awards points for each skill plus a Sequential group bonus. For instance, achieving A, B, X yields 20 + 25 + 15 points for skills and an additional 50 points as a Sequential group bonus. Completing A, B, Y in a separate attempt scores 20 + 25 + 30 points, plus a 100-point bonus for the Selection group. Note that the Sequential group bonus is awarded only once.

Human Help

Human intervention in skill execution disqualifies the skill from being counted as completed, emphasizing the robot's autonomous capabilities. Although no points are awarded for such skills, penalties may still apply. This rule ensures the focus remains on the robot's independent performance, aligning with the competition's objective to advance autonomous robotics.

Modularity

The structure of this competition draws parallels to modular programming in computer science. Teams should prioritize mastering common skills, starting with the Main Task Sequence, and then expand their focus to a diverse set of tasks to unlock all available bonuses, thereby maximizing their score.

Skill Dictionary

Communication and Explainability

1. **StreamRobotView**   **25**
Description: Stream the robot's view to the arena screen using VizBox

2. **StreamRobotMic**   **25**
Description: Stream the robot microphone (transmit direct audio perception)

3. **StreamRobotVoice**   **25**
Description: Stream the robot's voice and filter it out in audio perception

4. **DisplayRecogObjects**   **25**
Description: Display ROIs for recognized objects

5. **DisplayExecSubtask**   **20**
Description: Display currently executed subtask/skill

6. **DisplayRobotPosPath**   **20**
Description: Display robot position estimation, navigation goal, and planned path

7. **DisplaySTTResults**   **25**
Description: Display Speech-to-Text result as subtitle file in video

Safe Interactions

8. **StopOnTrigger**   **50**
Description: On defined trigger (e.g. shouting 'Stop' or touching the robot's arm): Immediately stop the current action

9. **ContinueOnTrigger**   **50**
Description: On defined trigger (e.g. saying 'Continue' or pressing the robot finger): Continue with the interrupted action

Perception

10. **RecogKnownObj**   **5**
Description: Recognize a known object or person in an image or other sensor data

11. **Recog3DPoseKnownObj**   **10**
Description: Recognize 3D pose of a known static object

12. **Recog3DPoseUnknownObj**   **30**
Description: Recognize 3D pose of an unknown static object

13. **RecogPointingTarget**   **15**
Description: Recognize the target object a human is pointing at

14. **FindSimilarObjects**   **20**
Description: Find the most similar objects given a reference object

15. **DetectAbsenceObjClass**   **10**
Description: Detect absence of an object class in the environment

16. **DescribePersonOrObject**   **15**
Description: Describe a person or an object based on visually perceived features (e.g., height, age-range, clothes, hair color and length)

17. **DetectHumanPoseAction**   **10**
    Description: Detect a human pose or an action (e.g., waving, calling)

18. **LookAtInterestingPerson**   **10**
    Description: Look at the face of the interesting person

19. **LookAtTalkingPerson**   **10**
    Description: Look at the person that is talking to the robot (sound source localization)

20. **DetectStoppedConv**   **5**
    Description: Detect that a conversation (between at least two humans) has stopped

Dialog

21. **UnderstandNonExpertCmds**   **15**
    Description: Understand commands from non-expert operators (understand synonym sentences)

22. **GenerateDialogLog**   **15**
    Description: Generate a dialog log of a task

23. **SummarizeDialogEvents**   **15**
    Description: Summarize the dialog and generally what happened in a task

24. **BehaveFriendlyLikable**   **5**
    Description: Always be pleasant to the person you are talking to

25. **DescribeStoredPersonOrObject**   **5**
    Description: Describe a person or an object using the stored information

Knowledge

26. **SaveLocationRequest**   **10**
    Description: Save the location of an object or person upon request

27. **SaveReRecogPersonFace**   **10**
    Description: Save and re-recognize a person's face

28. **SaveReRecogPersonVoice**   **10**
    Description: Save and re-recognize a person's voice

29. **SaveSpeakerInfo**   **15**
    Description: Save provided information about a speaker (e.g., name, preferences, object ownership, order)

Navigation

30. **NavigateToTarget**   **5**
    Description: Navigate to a specified target location

31. **TrackFollowPerson**   **10**
    Description: Detect, track and follow a person

32. **AvoidNavigationObstacle**   **5**
    Description: Avoid an object in the navigation path

33. **AvoidSmallObstacle**   **10**
Description: Avoid a small object in the navigation path

34. **AvoidHardToSeeObstacle**   **10**
Description: Avoid a hard-to-see object in the navigation path

35. **AvoidMarkedAreas**   **5**
Description: Avoid predefined marked areas during navigation

36. **AvoidPersonCrowd**   **10**
Description: Avoid a person or a crowd of people obscuring the path

37. **TransportWithTray**   **30**
Description: Use an unattached carried tray to transport items

Manipulation

38. **PickTinyKnown**   **60**
Description: Pick up a tiny known object

39. **PickNormalKnown**   **40**
Description: Pick up a normal-sized (hardy) known object

40. **PickLargeKnown**   **30**
Description: Pick up a large known object

41. **PickHeavyKnown**   **45**
Description: Pick up a heavy known object

42. **PickTinyUnknown**   **75**
Description: Pick up a tiny unknown object

43. **PickLargeUnknown**   **45**
Description: Pick up a large unknown object

44. **PlaceTinyKnown**   **20**
Description: Place a tiny known object

45. **PlaceNormalKnown**   **15**
Description: Place a normal-sized (hardy) known object

46. **PlaceLargeKnown**   **15**
Description: Place a large known object

47. **PlaceHeavyKnown**   **20**
Description: Place a heavy known object

48. **PlaceTinyUnknown**   **25**
Description: Place a tiny unknown object

49. **PlaceNormalUnknown**   **25**
Description: Place a normal-sized (hardy) unknown object

50. **PourIntoContainer**   **40**
Description: Pour something into a container

51. **PlaceTinyObjectInContainer**   **40**
Description: Place a tiny object into a small sized container

52. **ReceiveObjectHandover** **5**
Description: Receive an object by a human hand over

53. **PassObjectHandback** **5**
Description: Pass an object to a human hand back

Furniture Actions

54. **OpenEntranceDoor** **20**
Description: Open an entrance door

55. **CloseEntranceDoor** **30**
Description: Close an entrance door

56. **OpenShelfDoor** **45**
Description: Open a shelf door

57. **CloseShelfDoor** **20**
Description: Close a shelf door

58. **PullOutRack** **45**
Description: Pulling out a rack

59. **PushInRack** **20**
Description: Pushing in a rack

60. **OpenDishwasherDoor** **60**
Description: Open dishwasher door

61. **CloseDishwasherDoor** **80**
Description: Close dishwasher door

Using Tools

62. **PushLightSwitch** **10**
Description: Pushing a light switch

63. **PushButton** **10**
Description: Pushing a small button (e.g., on a washing machine)

64. **WipeTableSurface** **60**
Description: Wiping the table surface

Penalty

65. **PenaltyCallHumanHelp** **-20**
Description: Penalty for calling a human to help with the task

66. **PenaltyBypassSpeechRec** **-40**
Description: Penalty for bypassing speech recognition

67. **PenaltyDropObject** **-20**
Description: Penalty for dropping an object

68. **PenaltyDamageObject** **-50**
Description: Penalty for damaging an object

69. **PenaltySpillWhilePouring**   **-20**
    Description: Penalty for spilling substance while pouring

70. **PenaltyNotDetectPerson**   **-20**
    Description: Penalty for not detecting a person (no awareness)

71. **PenaltyNotRecognizePerson**   **-10**
    Description: Penalty for not recognizing a person (unable to retrieve associated, stored information)

72. **PenaltyBypassManipulation**   **-10**
    Description: Penalty for bypassing manipulation, but succeeding with the perception (and macro planning, so telling what should be done)

73. **PenaltyMisunderstandContext**   **-10**
    Description: Penalty for misunderstanding the context

74. **PenaltyUnfriendlyBehavior**   **-30**
    Description: Penalty for behaving unfriendly or not attending to interaction partner

Examples

75. **A**   **20**
    Description: Skill A

76. **B**   **25**
    Description: Skill B

77. **X**   **15**
    Description: Skill X

78. **Y**   **30**
    Description: Skill Y

1 VizBox Usage

Group (G-1)   **Type:** Permanent   **Bonus:** 25
Stream basic perception to the VizBox interface

1	Stream the robot's view to the arena screen using VizBox	25
2	Stream the robot microphone (transmit direct audio perception)	25
3	Stream the robot's voice and filter it out in audio perception	25

Group (G-2)   **Type:** Permanent   **Bonus:** 75
Stream general extracted knowledge to the VizBox interface

4	Display ROIs for recognized objects	25
5	Display currently executed subtask/skill	20
6	Display robot position estimation, navigation goal, and planned path	20
7	Display Speech-to-Text result as subtitle file in video	25

Group (G-3)   **Type:** Permanent   **Bonus:** 75
Always be able to interrupt the action and continue it, without any additional expert interaction

| 8 | On defined trigger (e.g. shouting 'Stop' or touching the robot's arm): Immediately stop the current action | 50 |
| 9 | On defined trigger (e.g. saying 'Continue' or pressing the robot finger): Continue with the interrupted action | 50 |

2 Carry my Luggage

Group (G-4)   **Type:** Selection   **Bonus:** 40
Handle obstacles such as avoiding objects, marked areas, and people during navigation

32	Avoid an object in the navigation path	5
33	Avoid a small object in the navigation path	10
34	Avoid a hard-to-see object in the navigation path	10
35	Avoid predefined marked areas during navigation	5
36	Avoid a person or a crowd of people obscuring the path	10

Group (G-5)   **Type:** Selection   **Bonus:** 20
Obtain information about the target bag, either by saving provided information or recognizing the target object

29	Save provided information about a speaker (e.g., name, preferences, object ownership, order)	15
13	Recognize the target object a human is pointing at	15

Group (G-6)   **Type:** Sequential   **Bonus:** 20
Navigate to the bag, recognize its 3D pose and pick it up

30	Navigate to a specified target location	5
12	Recognize 3D pose of an unknown static object	30
43	Pick up a large unknown object	45

Group (G-7)   **Type:** Sequential   **Bonus:** 20
Follow a person while handling obstacles

31	Detect, track and follow a person	10
G-4	*Handle obstacles such as avoiding objects, marked areas, and people during navigation*	

Group (G-8)   **Type:** Sequential   **Bonus:** 30
Main Task: Complete the 'Carry My Luggage' task

G-5	*Obtain information about the target bag, either by saving provided information or recognizing the target object*	
G-6	*Navigate to the bag, recognize its 3D pose and pick it up*	
G-7	*Follow a person while handling obstacles*	
30	Navigate to a specified target location	5

Group (G-9)   **Type:** Penalty   **Bonus:** -20
Penalties for various infractions during the task

65	Penalty for calling a human to help with the task	-20
67	Penalty for dropping an object	-20

3 Receptionist

Group (G-10)   **Type:** Permanent   **Bonus:** 10
Exhibit civilized behaviour like looking at interacting persons and behaving friendly

18	Look at the face of the interesting person	10
19	Look at the person that is talking to the robot (sound source localization)	10
24	Always be pleasant to the person you are talking to	5

Group (G-11)   **Type:** Sequential   **Bonus:** 20
Welcome the guest by navigating to them and handling doors

30	Navigate to a specified target location	5
54	Open an entrance door	20
55	Close an entrance door	30

Group (G-12)   **Type:** Selection   **Bonus:** 30
Identify and remember a person either by face or voice

27	Save and re-recognize a person's face (2 times)	10

Group (G-13)   **Type:** Sequential   **Bonus:** 20
Remember two facts about a person

29	Remember name and preferences	15
29	Remember object ownership and order	15

Group (G-14)   **Type:** Sequential   **Bonus:** 20
Introduce a person using stored and visually perceived information

16	Discribe a person according to visually perceived features (e.g. height, age-range, cloths, hair-colour and length, gender; at least three features)	15
25	Describe a person or an object using the stored information	5

Group (G-15)   **Type:** Sequential   **Bonus:** 40
Handle the guest by welcoming, remembering facts, navigating, and introducing

G-11	*Welcome the guest by navigating to them and handling doors*	
G-13	*Remember two facts about a person*	
30	Navigate to a specified target location	5
G-14	*Introduce a person using stored and visually perceived information*	

Group (G-16)   **Type:** Sequential   **Bonus:** 50
Main Task: Complete the Receptionist task by handling guests and introductions

G-15	*Handle the guest by welcoming, remembering facts, navigating, and introducing* 2 times
G-14	*Introduce a person using stored and visually perceived information* Introduce 1. Guest to 2. Guest

Group (G-17)   **Type:** Penalty   **Bonus:** -20
Penalties for failure to detect or recognize persons

70	Penalty for not detecting a person (no awareness)	-20
71	Penalty for not recognizing a person (unable to retrieve associated, stored information)	-10

4 Serve Breakfast

Group (G-18)   **Type:** Selection   **Bonus:** 30
Pick up different breakfast items

38	Pick up a Spoon (tiny object)	60
39	Pick up a Bowl (normal-sized known)	40
40	Pick up a Cereals (large object)	30
41	Pick up a Milk (heavy object)	45

Group (G-19)   **Type:** Selection   **Bonus:** 30
Place breakfast items appropriately

44	Place Spoon next to the bowl	20
45	Place Bowl on the table	15
46	Place Cereals on the table	15
47	Place Milk on the table	20

Group (G-20)   **Type:** Sequential   **Bonus:** 40
Set up each breakfast item at the target location

30	Navigate to a specified target location	5
G-18	*Pick up different breakfast items*	
30	Navigate to a specified target location	5
G-19	*Place breakfast items appropriately*	

Group (G-21)   **Type:** Sequential   **Bonus:** 50
Prepare the table for breakfast, including setting up all breakfast items

| G-20 | *Set up each breakfast item at the target location* (4 times) | |

Group (G-22)   **Type:** Sequential   **Bonus:** 60
Main Task: Serve breakfast

| G-21 | *Prepare the table for breakfast, including setting up all breakfast items* | |
| 50 | Cereal into the bowl | 40 |

Group (G-23)   **Type:** Sequential   **Bonus:** 70
Complete the full goal of the task, including all main and additional objectives

G-22	*Main Task: Serve breakfast*	
11	Placing the spoor next to the bowl	10
50	Pour milk into the bowl	40

Group (G-24)   **Type:** Penalty   **Bonus:** -20
Penalties for various infractions during the task

65	Penalty for calling a human to help with the task	-20
67	Penalty for dropping an object	-20
69	Penalty for spilling substance while pouring	-20

5 Storing Groceries

Group (G-25)   **Type:** Selection   **Bonus:** 30
Pick up various grocery items

38	Pick up a tiny known object	60
39	Pick up a normal-sized (hardy) known object	40
40	Pick up a large known object	30
41	Pick up a heavy known object	45

Group (G-26)   **Type:** Selection   **Bonus:** 30
Place grocery items appropriately

44	Place a tiny known object	20
45	Place a normal-sized (hardy) known object	15
46	Place a large known object	15
47	Place a heavy known object	20

Group (G-27)   **Type:** Sequential   **Bonus:** 40
Store each grocery item at the target location

30	Navigate to a specified target location	5
G-25	*Pick up various grocery items*	
30	Navigate to a specified target location	5
14	Communicate target location	20
G-26	*Place grocery items appropriately*	

Group (G-28)   **Type:** Sequential   **Bonus:** 50
Main Task: Storing groceries, including opening and closing shelves

56	Open a shelf door	45
G-27	*Store each grocery item at the target location*	
57	Close a shelf door	20

Group (G-29)   **Type:** Penalty   **Bonus:** -20
Penalties for various infractions during the task

65	Penalty for calling a human to help with the task	-20
67	Penalty for dropping an object	-20
73	Storing an object without categorizing it correctly	-10

6　Clean the table

Group (G-30)   **Type:** Selection   **Bonus:** 30
Pick up various dish items from the table

38	Pick up a Spoon, Fork or a Knife	60
39	Pick up a Bowl or Cup	40
41	Pick up a Plate	45

Group (G-31)   **Type:** Selection   **Bonus:** 30
Place dish items appropriately in the dishwasher

44	Place Spoon, Fork or Knife	20
45	Place Bowl or Cup	15
47	Place Plate	20

Group (G-32)   **Type:** Sequential   **Bonus:** 20
Open and close the dishwasher door

60	Open dishwasher door	60
61	Close dishwasher door	80

Group (G-33)   **Type:** Sequential   **Bonus:** 20
Pull out and push in the dishwasher rack

58	Pulling out a rack	45
59	Pushing in a rack	20

Group (G-34)   **Type:** Sequential   **Bonus:** 10
Handle the detergent powder

43	Pick up detergent powder	45
50	Pouring powder into container	40

Group (G-35)   **Type:** Sequential   **Bonus:** 40
Handle the dishwasher tab

42	Pick up a dishwasher tab	75
51	Place tab in small container	40

Group (G-36)   **Type:** Exclusive   **Bonus:** 50
Handle detergent selection process

G-34	*Handle the detergent powder*
G-35	*Handle the dishwasher tab*

Group (G-37)　　　　　　　　　　　　　　　　　　　　**Type:** Sequential　　　**Bonus:** 50
Put items into the dishwasher

30	Navigate to a specified target location	5
G-30	*Pick up various dish items from the table*	
30	Navigate to a specified target location	5
14	Find the most similar objects given a reference object	20
G-31	*Place dish items appropriately in the dishwasher*	

Group (G-38)　　　　　　　　　　　　　　　　　　　　**Type:** Sequential　　　**Bonus:** 100
Main Task: Clean the Table

G-37	*Put items into the dishwasher* (6 times/items. You are allowed to carry multiple items)

Group (G-39)　　　　　　　　　　　　　　　　　　　　**Type:** Sequential　　　**Bonus:** 30
Bonus goals of cleaning the table

G-32	*Open and close the dishwasher door*
G-33	*Pull out and push in the dishwasher rack*
G-36	*Handle detergent selection process*

Group (G-40)　　　　　　　　　　　　　　　　　　　　**Type:** Sequential　　　**Bonus:** 200
The complete cleaning the table task

G-38	*Main Task: Clean the Table*
G-39	*Bonus goals of cleaning the table*

Group (G-41)　　　　　　　　　　　　　　　　　　　　**Type:** Penalty　　　**Bonus:** -20
Penalties for various infractions during the task

67	Penalty for dropping an object	-20

7 Restaurant

Group (G-42)   **Type:** Selection   **Bonus:** 10
Detect and identify customers entering the restaurant

17	Detecting customer entering	10
10	Recognizing customer's face	5

Group (G-43)   **Type:** Sequential   **Bonus:** 20
Take the customer's order

G-42	*Detect and identify customers entering the restaurant*	
30	Approach customer	5
26	Save the location of an object or person upon request	10
24	Welcome customer	5
21	Understand customer's order	15
29	Save customer's order (2x, Once per customer)	15
23	Summarize orders taken	15

Group (G-44)   **Type:** Sequential   **Bonus:** 30
Collect the ordered items from the kitchen

30	Navigate to kitchen	5
39	Pick up ordered items (2x, Once per customer)	40

Group (G-45)   **Type:** Sequential   **Bonus:** 30
Deliver the order to the customer

30	Navigate to customer's table	5
45	Place order on the table (2x, Once per customer)	15

Group (G-46)   **Type:** Sequential   **Bonus:** 20
Handle an order for a table

G-43	*Take the customer's order*
G-44	*Collect the ordered items from the kitchen*
G-45	*Deliver the order to the customer*

Group (G-47)   **Type:** Selection   **Bonus:** 15
Extra tasks for additional points

24	Always be pleasant to the person you are talking to	5
16	Describe a person for entertainment	15
50	Prepare a drink, by pouring it from the bottle into a glass	40

Group (G-48)   **Type:** Selection   **Bonus:** 15
Special tasks utilizing VizBox

1	Stream robot's view for customers	25
4	Display recognized objects	25
7	Display speech-to-text results	25

Group (G-49)   **Type:** Sequential   **Bonus:** 50
Main Task: Restaurant Servant

G-46	*Handle an order for a table*
G-47	*Extra tasks for additional points*
G-48	*Special tasks utilizing VizBox*

Group (G-50)   **Type:** Sequential   **Bonus:** 20
Clean and set up the table

| 64 | Clean the table surface | 60 |
| 45 | Place tableware | 15 |

Group (G-51)   **Type:** Sequential   **Bonus:** 20
Process guests' payments

| 13 | Recognize payment method pointed by guest | 15 |
| 52 | Receive payment | 5 |

Group (G-52)   **Type:** Selection   **Bonus:** 15
Additional tasks for additional points

| G-51 | *Process guests' payments* |
| G-50 | *Clean and set up the table* |

Group (G-53)   **Type:** Selection   **Bonus:** 15
Be a fully functional robot servant

| G-49 | *Main Task: Restaurant Servant* |
| G-52 | *Additional tasks for additional points* |

Group (G-54)   **Type:** Penalty   **Bonus:** -20
Penalties for various infractions during the task

74	Penalty for behaving unfriendly or not attending to interaction partner	-30
65	Penalty for calling a human to help with the task	-20
67	Penalty for dropping an object	-20
69	Penalty for spilling substance while pouring	-20
73	Penalty for misunderstanding the context	-10

8 Stickler for the Rules

Group (G-55) **Type:** Selection **Bonus:** 10
Detect guests wearing shoes

17	Detect a human pose or an action (e.g., waving, calling)	10
10	Recognize a known object or person in an image or other sensor data	5

Group (G-56) **Type:** Selection **Bonus:** 10
Detect guests without a drink

30	Navigate to guest location	5
15	Detect absence of a drink	10

Group (G-57) **Type:** Selection **Bonus:** 10
Detect a person in a private room

30	Navigate to room location	5
10	Recognize person in room	5

Group (G-58) **Type:** Selection **Bonus:** 10
Detect garbage on the floor

30	Navigate to garbage location	5
10	Recognize garbage	5

Group (G-59) **Type:** Sequential **Bonus:** 80
Check for various rule breaks

G-55	*Detect guests wearing shoes*
G-56	*Detect guests without a drink*
G-57	*Detect a person in a private room*
G-58	*Detect garbage on the floor*

Group (G-60) **Type:** Sequential **Bonus:** 80
Main Task: Checking for rule breaks

G-59	*Check for various rule breaks* Check multiple times for rule breaks (4 times)

Group (G-61) **Type:** Penalty **Bonus:** -20
Penalties for failure to detect or recognize rule breaks

70	Penalty for not detecting a person (no awareness)	-20
71	Penalty for not recognizing a person (unable to retrieve associated, stored information)	-10
73	Penalty for misunderstanding the context	-10

9 Testing Misuse

Handle Obstacles (Selection Group)

Group (G-62)	**Type:** Selection	**Bonus:** 40

Undefined Skill

Error: Skill with ID 'NotDefined' not found.
Please define the skill using \DefSkill{skillId}{Points}{Default Description}{Category} or check for typos.
You can use the defined skill with \Skill{SkillId}[Sheet specific description] within a Group environment

Error: Skill with ID 'NotDefined2' not found.
Please define the skill using \DefSkill{skillId}{Points}{Default Description}{Category} or check for typos.
You can use the defined skill with \Skill{SkillId}[Sheet specific description] within a Group environment

Group (G-63)	**Type:** Sequential	**Bonus:** 20

Navigate to the bag, recognize its 3D pose and pick it up

30	Navigate to a specified target location	5
12	Recognize 3D pose of an unknown static object	30
43	Pick up a large unknown object	45

Group (G-64)	**Type:** Sequential	**Bonus:** 20

Follow a person while handling obstacles

| 31 | Detect, track and follow a person | 10 |
| G-4 | *Handle obstacles such as avoiding objects, marked areas, and people during navigation* | |

Group with ID 'NonExistentGroup' not found.

Group (G-65)	**Type:** Sequential	**Bonus:** 30

Main Task: 'Carry My Luggage'

G-5	*Obtain information about the target bag, either by saving provided information or recognizing the target object*	
G-63	*Navigate to the bag, recognize its 3D pose and pick it up*	
G-64	*Follow a person while handling obstacles*	
30	Navigate to a specified target location	5