Colapesce DimartiNAO

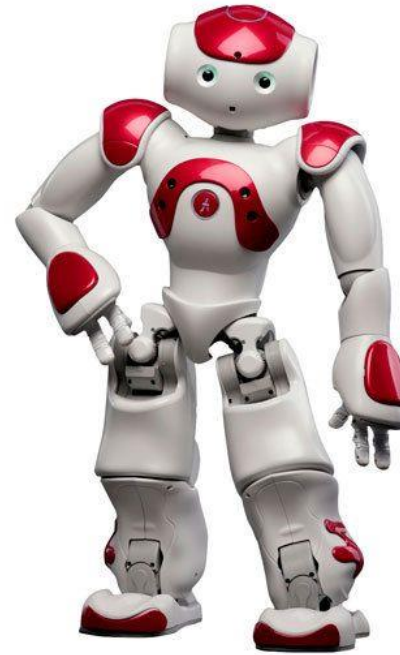## NAO Challenge 2023

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TIME MODELING

Total time = 3 minutes

Calculate the time required to execute the mandatory moves.

Divide the remain time in slots that must be filled with 5 moves.

CONSTRAINS

- Preconditions:

  Check if the position of the robot matches the the position of the goal move.

- Diversification:

  Check if there are 5 different moves in each choreography.

  Check if each choreography has at least 3 moves different from the other ones.

- Time:

  Check if there's enough time to execute a certain move in the remaining time.

SEARCH ALGORITHM

A* search

```python
# Heuristic function used in A* search
def h(self, nodeT):
    state = dict((key, value) for key, value in nodeT.state)
    goal = dict((key, value) for key, value in self.goal)
    return (goal['moves_done'] - state['moves_done']) * self.avg_time
```

Thanks for the attention