

Question-1 [20 Points]:

For each of the following activities, give a PEAS description of the task environment and characterize it in terms of the properties listed in Section 2.3.2. State your assumptions clearly if any.

- [5 Points] Playing soccer
- [5 Points] Bidding on an item at an auction
- [5 Points] Performing a high jump
- [5 Points] Knitting a sweater

1. playing Soccer: P: win the game or not
 E: field, players, ball, weather, judges
 A: foot, leg, head, arm -- body parts of robot
 S: eyes, ears (visual, sound detector)
 properties: partially observable, stochastic, sequential, dynamic
 continuous, unknown.

2. Bidding on an item at an auction

P: bid result, win the item we want or not
 E: other bidders, item to bid on, host for the bid, auction house
 A: mouth (voice system), hands (or body behavior) that can make response to bid or not
 S: ears, hear others' bid, eyes: to see the item, observe the environment
 Properties: partially observable, stochastic, sequential, dynamic
 continuous and multi-agent, ² known.