AI

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A1	A2	A3	Σ

Blatt 1

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Aufgabe 1:

environment	variable	justification
Table Tennis	fully observable	I can see all relevant parameters at any given time
	strategic	my choice of action is dependent on my opponent
	sequential	the experience is continuous
	dynamic	I need to react when my opponent shoots the ball back
	continuous	no clearly defined percepts and actions
	multi-agent	two-player game
UNO	partially observable	I can't see what the next card is and what my opponents hand
	stochastic	the next card is uncertain
	episodic	every play can be seen as an atomic action
	static	I can take as much time as I want to deliberate
	discrete	clearly define percepts and actions
	multi-agent	there are opponents
Archery	fully observable	I can see the bow, my hand and the target
	deterministic	only my shot determines the outcome
	episodic	the process of one shot can be defined as an episode
	static	I can wait as long as I want before I shoot and the env does no
	discrete	one shot is a clearly defined episode
	Single agent	my shot is independent of other players
Autonomous	partially observable	there are things the car might not be able to perceive
	stochastic	mostly strategic but there are random elements such as weathe
	sequential	there are no reasonable atomic episodes
	dynamic	environment changes over time while the care is deliberating
	continuous	no limited number of clearly defined percepts and actions
	multi-agent	there are other participants in traffic

Aufgabe 2:

environment	variable	justification
Chess	multi-agent	two players
	discrete	limited number of actions
	fully observable	I can theoretically compute all states of the game
	static	I can deliberate as long as I want
one-armed bandit	Single-agent	I play alone
	uncertain	I don't know the outcome of the machine (as a casual play
	discrete	limited number of actions and perceptions
	static	I can wait as long as I want during rolls
Car Driving	multi-agent	I share the traffic with other people
	partially observable	I am unable to see everything in traffic
	sequential	no atomic actions
	continuous	no clearly defined actions and perceptions
Puzzle	Single-agent	I play alone
	fully observable	I know every piece and part
	static	environment unchanged while deliberating
	discrete	limited number of actions, i.e. putting a piece somewhere
Skat	multi-agent	3 players
	discrete	limited number of actions
	partially observable	I don't know the hands of other players or the skat
	static	technically I could wait for a long time to deliberate

Aufgabe 3: