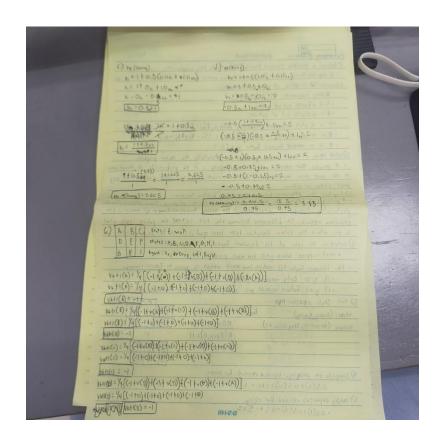
Earl Anthony Z. Gamboa (Midterm Exam)

End Among & Goding Matter Matter State 93005	
Delive a Markov Decision Process (MOP), wit its key components.	
- A propolar Dicision Process (MDP) is a Moreous report process with grossing. It is an	
Emmourement and in which all states are markov.	
the bay components: (S, A, & P, R, Y)	-
. S is a finite set of states 11 ward	1
· A is a finite set of actions	
· P is a state transition probability matrix, P'm = P(5, ti = 5' 5, 05, 4, = 0)	
· Ric a removed function, RS-E[R. +1 SI-705, AI-a]	
· > is a remarked discount factor y & LO,13.	
2) what does it man for a porcease to subsatisfy the nation property.	
- A process that satisfies the Mortan's property is if the probability of transitioning	
to the pext state depained only on the current state and notion, and not on any	1
post states or actions. September 2	
3) Explain the difference between Policy and a value function.	8
- h policy (n) defines the agents between this a rapping from stores to a	B
probability distribution over actions with house function (vocar a) musines the	88
expected return. The difference between the 100 is even the policy tells when	203
to do, while the volve function tells how good it is to be in a a state	
- 4) What is the role of the Euscount factor (y) in an mor?	
- what happens when y=0 and when y=1?	30
- the discount factor (y) controls bout much weight is given to future remards.	
. If y=0: Only immediate remarks are considered.	932
. It g > 1: future Huards are Harly at important as investigate ares.	
5) no - State weather MDP	5
state: (Sunny, Rainy) Function: Rysung, 6) = +2 (12 12 10 0000	
1 10 10 10 10 10 10 11 113	-45
actions (60 out=6, Stay Invide=1) : Rounny 1) = 0.5	
	100
(R(Rain) 1) 2+3) 8 10 0 10 10 10 10 10 10 10 10 10 10 10 1	
((a+1-)+(a+1)+(a) 1:0 (0) (b) (c) (b)	
2) Compute the avegrage expected reward for sharry.	
0.5(1) + 0.5(0) = 1+0 = 1 ((1)+1) 1(1)+1) 1(1)+1	
5) raing expected removed for roing. (CFT) HOFT) (CFT) HOFT) (CFT) IN	
= 0.5(1) to.5(3) = 0.5 + 1.5 = 2 mice	
: 0.5(1)10.35 O Miles	



Transfer of the latest of the			NO.: DATE:	
THE STATE OF THE S		Hamilton Zeldin		
49755473	168 NT+1 (4) = 1/4 ((-1+1(4))+(-		nar mark s (and s) n	
No ob at	VL+1(f): 1/4[(-HO)+(-1+0)	+ (-1+0)+(-1+0)	0021: 707p430p	
Victorius ()	V K+1(6)=1/4[(-1+16))+(-1	1(H) H (1+1/6) 71 (1+1/6)	07	
Early)	VK+1(6)= /4 ((-1+0)+(-1+0)+	(+1+0)1 (+1)	Description of many of the	
21 31-	VICT(6):-1	C - 51 (1003	15 (mill ol)	
210	VEH (4) = 14 (C-14 v(6)) + (-1+	(1) A (-1+V(H)) + (-1+V((1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	
21 - 350 (3	VATICA) = 1/4[(-140)+(-140)+	(-1+0)+(-1+0)]	003 1 (00,0)0	
me) and a	MATON 4 THICH) = -			
and award	V/41(1) = /4[(-1+v(4))+(-1+v(1))			
	vai(1): 19[(-1+0)+(-1+0)+(-1+0)+(-1+0)]		
	(HIG) = 4			
	9 HIQ (A, LEFT) = -1 + V(A)	q(B, Up) = -1+100)	9(0,000) = -14v(t)	
	attla (A, Left) = - 1+(-)	9(B, UP) = -1+(-1)	q(p,boun) = -14(-1)	
	attle (A, Left) = -2	(B, UP) = -2	(a(0,000) 2-2)	
	941 Q(A, Right) = -1 + V(B)	q(c, Left) = -1 +v(n)	Q(0,00)=-1+000+1- (-000)	
12:0 =	9 HT 9 (A RIGH = -1+(-D)	9 (C, LPF4) = -(4(-1)	Q(D,UP) = -(+ w(-D)	
IEW T	9H1 (1, 1744) = -2	19(C)(0H = -2)	Q(0.49)= - 12	
	9 (A, Doun) = -1 + v(D)	q(c, Right) = -1+v(c)	Q (F, Le(1)) = - + V(x)	
	Q(A,Dxx) = -1+(-1)	Q(c1Right)=-1+(-1)	g(r,cet)=-1+60	
	(1 ((((((((((((((((((Q(c, Right) = -R4-2	Q(F, Left) = -2	
	9(A, Up) = -1 tv(A)	q(c, Down) 1 + v(F)	q(F,Rght)= ++v(6)	
	9(A,UP)=-(+(-1)	qu, Dwn) = -1+(-1)	- g(F, RgH) = -1+(-1)	
	[5-=(q1,4)p)	(c.oan) = -2)	9(F, Right) = -2	STATE OF STA
0.00	9 (B, 1xft)= -1+v(A)	q(c, up) = -1+u(c)	q(F, Dows) = -1tu()	
	9 (B, LET) = -1+(-D)	Q(C,UP)=-1+(-1)	q(+, Down)=-1+(0)	Carlo Santa
	Q(10, Left) = -2	Q(CIUP)=-2]	(a(f, Down) = - para	100000
	Q(B, Right) = -1+v(c)	0(0, Left) = -H VCO)	Q(F, UP) = -1 tv(c)	
	O(8, Right)=-1+(1)	0(0,u(t)=-1+c1)	a(f,UP)=-1+(-1)	
		0(0, Left) = -21	Q(F,UP)= -2	
		Q (D, Right) = -/ +1(0)	g(85, LAT) = -1+1 (6)	
	g(B, Doon)=-1+(-1)	g(D, Right)=-11(-1)	Q(6, Left) = -1+(-1)	
	den 1=-21	On Right - Today	[0(4.Left)=-2]	

