12 32 44 64 76 96 108 128 236 - - 256	12	2 4 5 6 7 8 9 10 11 12 12 12 12 12 13 256	3 5 6 7 8 9 10 11 12 13 13 13 13	4 6 7 8 9 10 11 12 13 14	5 7 8 9 10 11 12 13 14	8 9 10 11 <b>12</b> 13	7 9 10 11 12 13 14	10 11 12 13 14	11 12 13 14	10 12 13 14 15	12 13 14	12 13 14	12 13	13 14 15		2, 3 or 3	sum 5, 3, 2.	two ways		ealt	
12 32 44 64 76 96 108 128 236 - - 256	2 3 3 4 4 5 5 6 6 7 8 9 10 J Q K A Qtys	4 5 6 7 8 9 10 11 12 12 12 12 13 256	5 6 7 8 9 10 11 12 13 13 13	7 8 9 10 11 12 13 14	7 8 9 <b>10</b> 11 12 13	8 9 10 11 <b>12</b> 13	10 11 12 13 <b>14</b>	11 12 13 14	11 12 13 14	13 14	12 13 14	12 13	12 13	13 14		For Qty 2, 3 or 3	sum 5, 3, 2.			ealt	
44 64 76 96 108 128 236 - - 256	4 5 6 7 8 9 10 J Q K A Qtys	6 7 8 9 10 11 12 12 12 12 13 256	7 8 9 10 11 12 13 13 13	8 9 10 11 12 13 14 14	9 10 11 12 13 14	10 11 <b>12</b> 13 14	11 12 13 <b>14</b>	12 13 14	13 14	14	14							sible way	rs.		
64 76 96 108 128 236 - - 256 UM 4 ITY (P(Sum)	5 6 7 8 9 10 J Q K A Qtys	7 8 9 10 11 12 12 12 12 13 256	8 9 10 11 12 13 13 13	9 10 11 12 13 14	10 11 12 13 14	11 <b>12</b> 13 14	12 13 14	13 14	14			14	14	15		a a a b unit	th 1 noo	sible way	s.		
76 96 108 128 236 - - 256 UM 4 TY 7	6 7 8 9 10 J Q K A Qtys	8 9 10 11 12 12 12 12 13 256	9 10 11 12 13 13 13	10 11 12 13 14 14	11 12 13 14	12 13 14	13 <b>14</b>	14		15	4 -			10		each wi	111 4 pus	oibic way			
96 108 128 236 - - 256 UM 4 TY 7	7 8 9 10 J Q K A Qtys	9 10 11 12 12 12 12 13 256	10 11 12 13 13 13	11 12 13 14 14	12 13 14	13 14	14		15		15	15	15	16		so 2*4*4					
108 128 236 - - 256 UM 4 TTY 1	8 9 10 J Q K A Qtys	10 11 12 12 12 12 13 256	11 12 13 13 13 13	12 13 14 14	13 14	14		4 -	15	16		16	16	17				all even s			
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236 - - 256 UM 4 TTY 1	10 J Q K A Qtys	12 12 12 12 13 256	13 13 13 13	14 14				16	17	18		18	18	19				when eq	ual car	ds, so	
256 UM 4 2TY 1	J Q K A Qtys	12 12 12 13 256	13 13 13	14		15 16	16 17	17 18	<b>18</b>	19 <b>20</b>		19 20	19 20	20 21		2*4*4+	1*4*3 =	44			
UM 4 TTY 1 P(Sum)	Q K A Qtys	12 12 13 <b>256</b>	13 13		15	16	17	18	19	20		20		21							
UM 4 RTY 1 P(Sum)	K A Qtys	12 13 <b>256</b>	13	14	15	16	17	18		20		20	20	21							
UM 4 RTY 1 P(Sum)	Qtys 4 12	256	14	14	15	16	17	18	19	20		20	20	21							
P(Sum)	4			15	16	17	18	19	20	21	21	21	21	22							
P(Sum)	12		236	224	220	192	172	160	272	128	-	-	-	12							
P(Sum)	12																				
OTY 1	12																				
P(Sum)			6		8	9	10	11	12	13	14	15		17	18	19	20	21	22	19	possible sur
	0.0045	32	44	64	76	96	108	128	236	256	236	224		192	172	160	272	128	12	2668	qty of each su
P(Sı	0.0045	0.0120	0.0165	0.0240	0.0285	0.0360	0.0405	0.0480	0.0885	0.0960	0.0885	0.0840	0.0825	0.0720	0.0645	0.0600	0.1019	0.0480	0.0045	1.0000	total
0	0.0500																				
U	0.0000	4	5 6	7 8	9	10 11	12 13 SU		15 16	17 18	3 19 2	20 21	22								
														J							
l	Let's	comput	e PT(	Sum) p	robabi	lity c	of a pl	layer's	s hand	be in	volved	in a	TIE af	ter th	ne seco	ond car	d is de	alt.			
rst DEC																					
or Ties,	•																				
ET A: Fo																					
ET B: Fo											-		•	_							
ETA n	SEI	D: THE	iist oi	possin	ne sun	is goes	iroiii r	ngnerc	zaru ∓ z	z up to	Lower	∪aru ∓	11. See	exam	pies be	iow:					
cample '	1: Dlay	or acto	4 Dos	olor got	- 0 Th	io ovor	nnlo ai	voc E n	oooible	. cumo	. 11 12	12 14	1E for	o tio s	ralua						
nis way,																15)=		0.4048			
es	P\D	2	3	4		6	, Douic 7					` '	•	Α		,		0.1010			
-	2								11			-									
	_	lower th	an the i	nitial o	dealer's	card			12												
	4	6	7	8	9	10	11	12	13	14	14	14	14	15							
	5								14												
	6								15												
	7								16												
	8								17												
	9								18												
	10		not read	chable by	/ player	's second	d card {		19												
	J								19												
	Q								19												
	κ								19												
	Α								20												
	1																				
			10, De	ealer ge	ets 3. T	his exa	imple c	jives 3	possib	le sum	s: 12, 1	3, 14 fc	or a tie-	value							
xample :		er gets																			
	2: Play							r's 1st	Card) =	(10, 3	) will be	P(12)	+P(13)+	P(14)=		0.2729					
xample :	2: Play			nt (Play	er's 1s			r's 1st 8		: (10, 3) 10				P(14)= A		0.2729					

	4		7																	
	4																			
	5		8		} lower	than the	a initial	l player'	s card											
	6		9																	
	7		10																	
	8		11																	
	9		12																	
	10		13																	
	J		13				not read	chable by	/ plaver'	s second	d card									
	Q	12	13	14	15		17	18	19	20	20	20	20	21						
	K		13																	
	A		14																	
	_ ^		17												1					
														<b>.</b>						
General							-				i first ca	ards Pi	ayer x	Dealer						
This way																				
Ties	P\D	2	3	4	5	6	7	8	9	10-K	Α									
	2	0.3943	0.3898	0.3778	0.3613	0.3373	0.3088	0.2729	0.2324	0.1844	0.0960									
	3	0.3898	0.4783	0.4663	0.4498	0.4258	0.3973	0.3613	0.3208	0.2729	0.1844									
	4	0.3778	0.4663	0.5502	0.5337	0.5097	0.4813	0.4453	0.4048	0.3568	0.2684									
	5	0.3613	0.4498	0.5337	0.6162	0.5922	0.5637	0.5277	0.4873	0.4393	0.3508									
	6	0.3373	0.4258	0.5097	0.5922	0.6642	0.6357	0.5997	0.5592	0.5112	0.4228									
	7	0.3088	0.3973	0.4813	0.5637	0.6357	0.7001	0.6642	0.6237	0.5757	0.4873									
	8		0.3613				0.6642													
	9		0.3208							0.7376										
	10-K	0.1844				0.5332														
	Α-Ν																			
	А	0.0960	0.1844	∪.∠ხ84	U.35U8	0.4228	0.4873	0.54/2	0.0492	0.0972	0.7016									
	D		4=4.1				L	TIT	_ 41 ·		2.4		- 20 - 1							
						ll always														
	initial p	air of c	ard is (A	4,2) or (	(2, A), v	vhich wi	II be dir	egarde	d, and t	ne bet f	or Tie w	vill alwa	ys happ	oen.						
_																				
Second																				
For doul	bling de	cision	, we wi	ll evalu	ate the	odds	of winn	ing als	o base	d on th	e first c	ards d	ealt, as	follow	/s:					
Fact: Fo	r the pe	erson v	ith the	face ca	ard, the	e possil	ble ma	ximun t	otal ha	nd is C	ard + 1	11								
Example	1: Play	er get	s 4, Dea	aler get	ts 9. Th	ıis exar	nple gi	ves 5 p	ossible	sums:	: 11, 12.	, 13, 14	, 15 for	a tie-v	/alue.					
This way		_														gerCard	l + 11). t	o Dealer		
Ties	P\D	2	3						9		J		K				,, -			
1100	2				•				41			_								
						<u> </u>			12											
	4	10wer ti	nan the i				11	12	13	14	14	14	14	15	1					
		-	т	•		10		TZ	14	17	14	17	- 17	10	-					
	5																			
	6								<del>15</del>											
	7								16											
	8								17											
	9								18											
	10			advantag	ge of dea	aler over	rplayer	{	19											
	J								19											
	Q								19											
	K																			
	Α								19											
									19 20											
Example																				
	2: Play	ver aet	s 10. De	ealer o	ets 3. T	his exa	ımple a	iives 3	20	le sum	s; 12. 1	3. 14 fc	r a tie-	value						
						This exa			20 possib						, P(Lar	gerCard	[ + 11). t	o Plaver		
This way	y, in the	table t	he poir	nt (Play	er's 1s	st. Card	, Deale	r's 1st	20 possib Card) =	(4, 9) v	will be F	P(MinC	ard+11	+1) +	_ •	gerCard	l + 11), t	o Player		
	y, in the P\D		he poir	nt (Play	er's 1s	st. Card	, Deale	r's 1st	20 possib			P(MinC			_ •	gerCard	I + 11), t	o Player		
This way	y, in the P\D 2	table t	he poir 3 5	nt (Play	er's 1s	st. Card	, Deale	r's 1st	20 possib Card) =	(4, 9) v	will be F	P(MinC	ard+11	+1) +	_ •	gerCard	i + 11), t	o Player		
This way	y, in the P\D 2 3	table t	he poir 3 5 6	nt (Play	er's 1s	st. Card	, Deale	r's 1st	20 possib Card) =	(4, 9) v	will be F	P(MinC	ard+11	+1) +	_ •	gerCard	I + 11), t	o Player		
This way	y, in the P\D 2 3	table t	5 6 7	nt (Play	ver's 1s 5	st. Card 6	, Deale 7	r's 1st 8	20 possib Card) = 9	(4, 9) v	will be F	P(MinC	ard+11	+1) +	_ •	gerCard	I + 11), t	o Player		
This way	y, in the P\D 2 3 4 5	table t	5 6 7 8	nt (Play	ver's 1s 5	st. Card	, Deale 7	r's 1st 8	20 possib Card) = 9	(4, 9) v	will be F	P(MinC	ard+11	+1) +	_ •	gerCard	i + 11), t	o Player		
This way	y, in the P\D 2 3 4 5 6	table t	5 6 7 8	nt (Play	ver's 1s 5	st. Card 6	, Deale 7	r's 1st 8	20 possib Card) = 9	(4, 9) v	will be F	P(MinC	ard+11	+1) +	_ •	gerCard	i + 11), t	o Player		
This way	y, in the P\D 2 3 4 5 6 7	table t	5 6 7 8 9	nt (Play	ver's 1s 5	st. Card 6	, Deale 7	r's 1st 8	20 possib Card) = 9	(4, 9) v	will be F	P(MinC	ard+11	+1) +	_ •	gerCard	i + 11), t	o Player		
This way	y, in thee P\D 2 3 4 5 6 7	table t	5 6 7 8 9 10 11	nt (Play	ver's 1s 5	st. Card 6	, Deale 7	r's 1st 8	20 possib Card) = 9	(4, 9) v	will be F	P(MinC	ard+11	+1) +	_ •	gerCard	i + 11), t	o Player		
This way	y, in the P\D 2 3 4 5 6 7	table t	5 6 7 8 9	nt (Play	ver's 1s 5	st. Card 6	, Deale 7	r's 1st 8	20 possib Card) = 9	(4, 9) v	will be F	P(MinC	ard+11	+1) +	_ •	gerCard	i + 11), t	o Player		
This way	y, in thee P\D 2 3 4 5 6 7	table t	5 6 7 8 9 10 11	nt (Play	ver's 1s 5	st. Card 6	, Deale 7	r's 1st 8	20 possib Card) = 9	(4, 9) v	will be F	P(MinC	ard+11	+1) +	_ •	gerCard	I + 11), t	o Player		
This way	y, in thee P\D 2 3 4 5 6 7 8	table t	5 6 7 8 9 10 11 12	nt (Play	ver's 1s 5	than the	, Deale 7	r's 1st 8	possib Card) = 9	(4, 9) v	J J	P(MinC	ard+11	+1) +	_ •	gerCard	I + 11), t	o Player		
This way	y, in the P\D 2 3 4 5 6 7 8 9	table t	5 6 7 8 9 10 11 12 13	nt (Play	yer's 1s 5	than the	, Deale 7	r's 1st 8	possib Card) = 9	: (4, 9) v 10	J J	P(MinC Q	ard+11	+1) +		gerCard	I + 11), t	o Player		
This way	y, in the P\D 2 3 4 5 6 7 8 9	table t	5 6 7 8 9 10 11 12 13 13	nt (Play	yer's 1s 5	than the	, Deale 7	r's 1st 8	20 possib Card) = 9 s card	: (4, 9) \\ 10	J J	P(MinC Q	ard+11 K	+1) + A		gerCard	I + 11), t	o Player		
This way	y, in thee P\D 2 3 4 5 6 7 8 9 10 J	table t	5 6 7 8 9 11 12 13 13 13	nt (Play	yer's 1s 5	than the	, Deale 7	r's 1st 8	20 possib Card) = 9 s card	: (4, 9) \\ 10	J J	P(MinC Q	ard+11 K	+1) + A		gerCard	I + 11), t	o Player		
This way	y, in thee P\D 2 3 4 5 6 7 8 9 10 J	table t	13 5 6 7 8 9 10 11 12 13 13 13 13	nt (Play	yer's 1s 5	than the	, Deale 7	r's 1st 8	20 possib Card) = 9 s card	: (4, 9) \\ 10	J J	P(MinC Q	ard+11 K	+1) + A		gerCard	I + 11), t	o Player		
This way	y, in thee P\D 2 3 4 5 6 7 8 9 10 J	table t	13 5 6 7 8 9 10 11 12 13 13 13 13	nt (Play	5 s lower	than the	e initial	r's 1st  8  L player'  ge of pla  18	20 possib Card) = 9 9 s card	: (4, 9) \\ 10	will be F	P(MinC Q	ard+11 K	+1) + A		gerCard	I + 11), t	o Player		
This way	y, in thee P\D 2 3 4 5 6 7 8 9 10 J C K A	12 2	he point 3 3 5 6 7 8 9 10 11 12 13 13 13 14 3	nt (Play	rer's 1s 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	than the	e initial	r's 1st 8	20 possib Card) = 9 s s card	the dea 20	aler 20	P(MinC Q	20	+1) + A		gerCard	i + 11), t	o Player		
This way	y, in thee P\D 2 3 4 5 6 7 8 9 10 J Q K A	12 12 2 0.0000	he point 3 3 6 6 6 7 7 8 9 10 11 11 11 11 11 11 11 11 11 11 11 11	144 4 4 4 4 -0.1724	yer's 1s 5 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	than the	advantage 17	r's 1st:      8      1      1 player'      18      8      -0.4513	20 possib Card) = 9 s card s card ayer over 19 9-0-5532	the dea 20	aler 20 A -0.6057	P(MinC Q	20	+1) + A				o Player		
This way	y, in thee P\D 2 3 4 5 6 7 8 9 10 J Q K A	12 0.0000 0.0885	he point	14 4 -0.1724 -0.0840	/er's 1s 5 5 5 10 10 10 10 10 10 10 10 10 10 10 10 10	than the	advantag 17 -0.3913 -0.3028	r's 1st 8 8 8 1 18 8 8 8 8 -0.4513 -0.3628	20 possib Card) = 9 s card  s card  19 9 -0.5532 -0.4648	the dea 20  10-K -0.6012 -0.5127	20 A -0.6057	P(MinC Q	20	+1) + A	tage to	o Player		o Player		
This way	y, in thee P\D 2 3 4 5 6 7 8 9 10 J Q K A P\D 2 3	12 0.0000 0.0885 0.1724	he point 3 3 5 6 6 7 7 8 8 9 140 141 142 143 143 143 144 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	14 4 -0.1724 -0.0840 0.0000	yer's 1s 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	than the	advantag 17 7 -0.3913 -0.3028 -0.2189	r's 1st. 8 8 4 player' 18 18 8 -0.4513 -0.3628 -0.2789	20 possib Card) = 9  s card  19  9-0.5532 -0.4648 -0.3808	10-K -0.6012 -0.5127 -0.4288	aler 20 A -0.6057 -0.5172 -0.4333	P(MinC Q	20	+1) + A  A  21  3: Advar Advar	tage to	o Player o Dealer		o Player		

6 0.3288 0.2384 0.1544 0.0720 0.000 0.0645 0.1244 0.2284 0.2744 0.2789  7 0.3913 0.3921 0.2890 0.1364 0.0845 0.000 0.0000 0.1019 0.1099 0.0144  8 0.4513 0.3828 0.2780 0.1964 0.1244 0.0600 0.0000 0.01019 0.1099 0.01544  9 0.5522 0.4648 0.3808 0.2884 0.2284 0.1619 0.1019 0.0000 0.0055  A 0.6012 0.5127 0.4288 0.3463 0.2744 0.2099 0.1499 0.0480 0.0000  A 0.6057 0.5172 0.4333 0.3608 0.2786 0.2144 0.1544 0.0552 0.0045 0.0000  General strategy will be to double everytime the first cards are greater than the dealers' first card.  In the case of tie for first cards Player vs Dealer, we will assume no doubling will be made.  As we will always bet for Tie, as per our strategy, if cards are the same, we will ALSO Double when it's tie below:  Decision: PID 2 3 4 5 6 7 8 9 10-K A  Double 2 TIERDD KP																						
8 0.4513 0.3628 0.2789 0.1964 0.1244 0.0600 0.0000 0.1019 0.1499 0.0544 9 0.5532 0.4648 0.3888 0.2984 0.2284 0.1619 0.1019 0.0000 0.00480 0.00480 0.0000 0.00480 0.00480 0.0000 0.00480 0.00480 0.0000 0.00480		6	0.3268	0.2384	0.1544	0.0720	0.0000	-0.0645	-0.1244	-0.2264	-0.2744	-0.2789										
9		7	0.3913	0.3028	0.2189	0.1364	0.0645	0.0000	-0.0600	-0.1619	-0.2099	-0.2144										
10-K 0.6012 0.5127 0.4288 0.3463 0.2744 0.2099 0.1499 0.0480 0.0000 0.00045  A 0.6057 0.5172 0.4333 0.3508 0.2789 0.2144 0.1544 0.0525 0.0045 0.0000  General strategy will be to double everytime the first cards are greater than the dealers' first card.  In the case of tie for first cards Player vs Dealer, we will assume no doubling will be made.  As we will always bet for Tie, as per our strategy, if cards are the same, we will ALSO Double when it's tie below:  Decision: PID 2 3 4 5 6 7 8 9 10-K A  Double 2 TIE/DD KP		8	0.4513	0.3628	0.2789	0.1964	0.1244	0.0600	0.0000	-0.1019	-0.1499	-0.1544										
A		9	0.5532	0.4648	0.3808	0.2984	0.2264	0.1619	0.1019	0.0000	-0.0480	-0.0525										
General strategy will be to double everytime the first cards are greater than the dealers' first card.  In the case of tie for first cards Player vs Dealer, we will assume no doubling will be made.  As we will always bet for Tie, as per our strategy, if cards are the same, we will ALSO Double when it's tie below:  Decision: PID 2 3 4 5 6 7 8 9 10-K A  Double 2 TIE/DD KP		10-K	0.6012	0.5127	0.4288	0.3463	0.2744	0.2099	0.1499	0.0480	0.0000	-0.0045										
In the case of tie for first cards Player vs Dealer, we will assume no doubling will be made.  As we will always bet for Tie, as per our strategy, if cards are the same, we will ALSO Double when it's tie below:  Decision: P\D 2 3 4 5 6 7 8 9 10-K A  Double 2 TIE/DD KP		Α	0.6057	0.5172	0.4333	0.3508	0.2789	0.2144	0.1544	0.0525	0.0045	0.0000										
In the case of tie for first cards Player vs Dealer, we will assume no doubling will be made.  As we will always bet for Tie, as per our strategy, if cards are the same, we will ALSO Double when it's tie below:  Decision: P\D 2 3 4 5 6 7 8 9 10-K A  Double 2 TIE/DD KP																						
As we will always bet for Tie, as per our strategy, if cards are the same, we will ALSO Double when it's tie below:  Decision: P\D 2 3 4 5 6 7 8 9 10-K A  Double 2 TIE/DD KP	General s	strateg	y will t	e to do	ouble e	verytim	ne the f	irst car	ds are	greate	r than t	he dea	lers' fir	st card								
Decision:   P\D   2	In the ca	se of ti	e for fi	rst card	ds Play	er vs D	ealer, v	we will	assume	no do	oubling	will be	made.									
Double 2 TIE/DD KP	As we wi	II alway	ys bet	for Tie,	as per	our st	rategy,	if cards	s are th	e same	e, we w	ill ALS	O Doub	le whe	n it's t	ie belov	v:					
Or Not 3 DD TIE/DD KP DD means double initial bet means keep original bet    5 DD DD DD DD DD DD DD TIE/DD KP	Decision	:	P\D	2	3	4	5	6	7	8	9	10-K	Α									
4 DD DD TIE/DD KP	Double		2	TIE/DD	KP	KP	KP	KP	KP	KP	KP	KP	KP		Leger	ıd:						
5 DD DD DD TIE/DD KP	or Not		3	DD	TIE/DD	KP	KP	KP	KP	KP	KP	KP	KP		TIE	meas e	equal ch	anges				
6 DD DD DD DD TIE/DD KP KP KP KP  7 DD DD DD DD DD DD TIE/DD KP KP KP  8 DD DD DD DD DD DD DD TIE/DD KP KP  9 DD DD DD DD DD DD DD DD TIE/DD KP KP  10-K DD TIE/DD KP  A DD TIE/DD  Let's evaluate possible outcomes from different strategies and simulate a large number of rounds  For each possible dollar outcome, an histogram will show the weight of each dollar outcome.  Initial bet will always be 2 (even number) \$value chips for standard reference			4	DD	DD	TIE/DD	KP	KP	KP	KP	KP	KP	KP		DD	means	double	initial be				
7 DD DD DD DD DD DD TIE/DD KP KP KP 8 DD DD DD DD DD DD DD DD TIE/DD KP KP 9 DD DD DD DD DD DD DD DD DD TIE/DD KP 10-K DD TIE/DD KP A DD TIE/DD Let's evaluate possible outcomes from different strategies and simulate a large number of rounds For each possible dollar outcome, an histogram will show the weight of each dollar outcome. Initial bet will always be 2 (even number) \$value chips for standard reference  See attached earning_paths.png			5	DD	DD	DD	TIE/DD	KP	KP	KP	KP	KP	KP		KP	means	keep o	riginal be	t			
8 DD DD DD DD DD DD DD TIE/DD KP KP KP 9 DD DD DD DD DD DD DD DD TIE/DD KP 10-K DD TIE/DD KP A DD TIE/DD Let's evaluate possible outcomes from different strategies and simulate a large number of rounds For each possible dollar outcome, an histogram will show the weight of each dollar outcome. Initial bet will always be 2 (even number) \$value chips for standard reference  See attached earning_paths.png			6	DD	DD	DD	DD	TIE/DD	KP	KP	KP	KP	KP									
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		Initial I	bet will	alway	s be 2 (	even n	umber	) \$valu	e chips	for st	andard	refere	nce									
Functions: p(y), F(Y), E(Y), sd(Y), plots f(Y) and F(Y)		See att	tached	earnin	g_path	s.png																
		Function	ons: p(y	), F(Y),	E(Y), s	d(Y), pl	lots f(Y)	and F(	Y)													
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So far, I cound not find out how to calculate the probability of each outcome, as there are so many paths.		So far,	I cound	d not fin	d out h	ow to ca	alculate	the pro	bability	of eac	h outco	me, as	there ar	e so ma	any pa	ths.						
This way, I will do the reverse way: create a program to run this game millions of times, and register the p(y) for each possible outcome.																	or each	possible	outcome	ð.		
I will attach the code to be used on our report.						-										,		Ì				