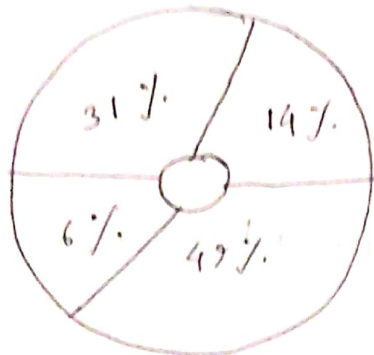


step 1: selection

Select mating pool by spinning roulette wheel 4 times



Weighted Roulette wheel

	pselect	
01101	0.14	1
11000	0.49	2
01000	0.06	0
10011	0.31	1

↳ fitness

The best get more copies
The average stay even
The worst die off

~~step 2~~

~~Iteration 1~~

step 2: Crossover (strings are mated randomly using coin tosses to pair the couples)

string number	Mating Pool after reproduction	Mate (randomly selected)	Crossover site (random)	New population	X-value	$f(x) = x^2$
1	0110 1	2	4	01100	12	144
2	1100 0	1	4	11001	25	625
3	11 000	4	2	11011	27	729
4	10 011	3	2	10000	16	256