

det mutate (child):

if noundom, nandom () < mutation passe

mutation point = nandom. uniform (-10,10)

netnem mutation paint

netnem child.

def genetic algorithme).

propulation = caeate population coopulations

for generation in range (generateon).

fitness = crahate fitness population.

best fêthous np. max (fêthous)

best indevidual = population (np. ang max(féthous)

paint (f"Generation & goneration?: Best Féthous

individual 3").

parent, parents = select parents (population fi tness)

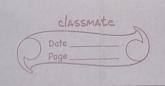
child 2 = constoner (parent 1, pagent 2)

child2=mutate(child2)

nene population extend (tourid), and 33

population = np. agray crong population.)

final fitness = evaluatifitness (population)
best individual = population Inp. aggmax(final



percoletion, best formes = generic algorithm()
peint (f" Best solution; & best solution & noith Fitness;

&best fitness 3")

Output

Generation 0: Best Fitness = 79.2508, Best Individual-2.9

Generation x: Best Fitness = 79.2508, Best Individual-2.4

Generation 2: Best Fitness = 79.2508, Best Individual = 8.9

Generation 4: Best Fitness = 79.2508, Best Individual = 8.9

Generation 4: Best Fitness

Best Solution - 9.925 north Fitness: 98.5123 at Generation:31

Algorithm.

Step1: Shentify the objective function to optimize in this case maximize for = 2

Step 2: Set the following parameters population size mutantion note, caussover note, number of generation, loncer bound upper bound

step 3. Generate an inital population within the range of -10 to 10

Stepse: For each individual in population comparers fitness using fitness function for = 2

Step 5: Vie. Ryulette nahed selection to selett

Exoscorles neith a probabilitity of 0,8. step 7: For each offspring apply mutortown neith a personleilety of 0.8" Step 8: Collect the newly cheated of ferring until the new population seachs the original population size Step 9 Replace old population with new generation दिवत में जा का प्रदर्भ में माहर Step 10 & After final generation evaluate fethers of the propulation Stepl: Santify the objective function to optimize a this en elers course an intel population action ! wind to the subject of the population of the sales repensive the Relation solvers to edec marchine, 121 month strongs and