

MINISTRY OF EDUCATION REPUBLIC OF BELARUS
ESTABLISHMENT OF EDUCATION
"BREST STATE TECHNICAL UNIVERSITY"

Practice work №4
«Evolutionary Computation»
Subject: «The maximization of price of items in bag»

Made by:
Alexey Cherkasov
Checked by:
Professor Akira Imada

We should create 20 items with random price and volume. Volume must be less than 100. Our task is to maximize total price of items in bag. The summary price of items is the fitness of chromosome. Our program generates random items with random price and volume. Chromosomes with too big volume are killed.

Tables of volume and price of items in first, final and 3 average generations:

Generation 1:

[illegible]

Generation 1:

[illegible]

Generation 1:

[illegible]

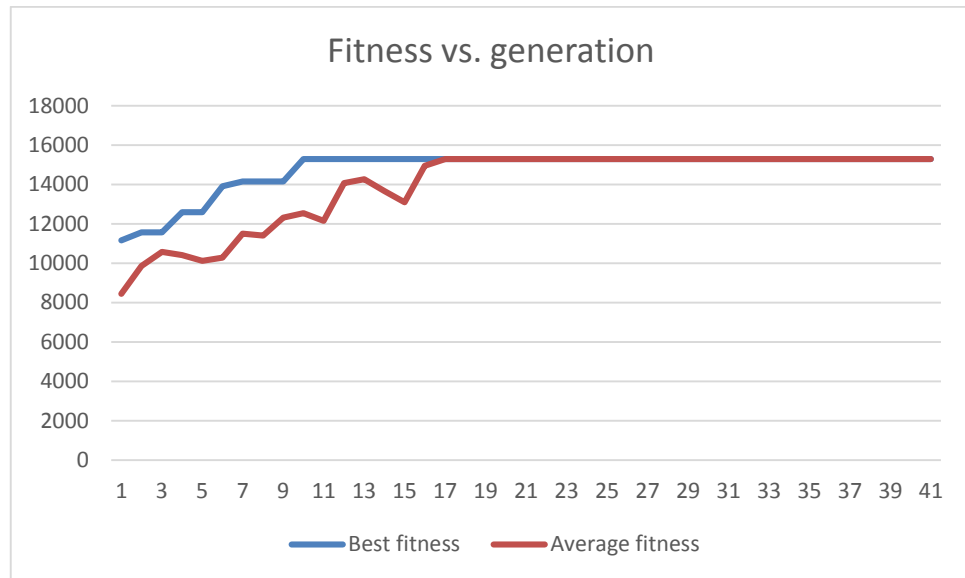
Generation 1:

[illegible]

Generation 1:

Item	1	2	3	4	5	6	7	8	9	10
Volume										
Price										
	11	12	13	14	15	16	17	18	19	20
Item										
Volume										
Price										

Graph of best and average fitness vs generation:



The best fitness was with volume.