Task 1(20-Dimensional Schwefel function)

1. Minimize

$y = x1 \sin(|x1|) + x2 \sin(|x2|) + \cdots + x20 \sin(|x20|)$

in the following way!

(1) Represent each of xi(i = 1, · · · , 20) by a chromosome with 20 genes.

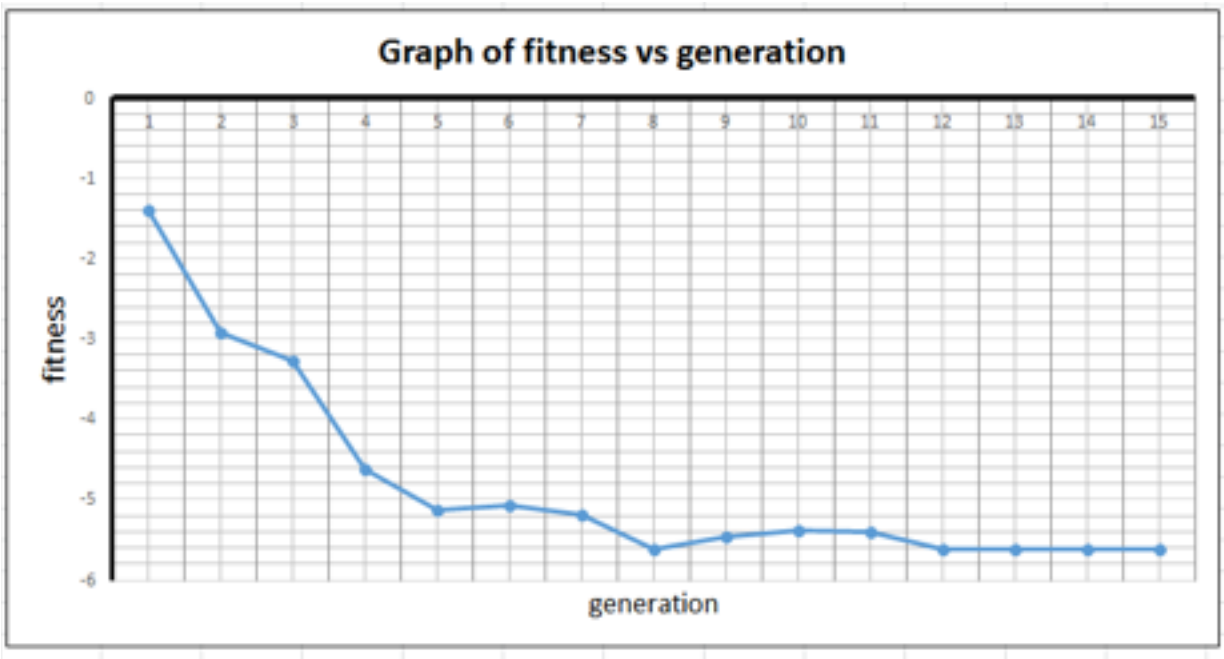
(2) Create a population of 20 chromosomes at random, with fitness being y.

(3) Evolve this population till fitness dosen't change.

2. Show

(1) the graph of best fitness vs generation.

I wrote a program that implements the algorithm. The result of her work is shown in the chart below.



Task 2(2-D version of Schwefel function)