```
 1  //FOLDER: sequential_example
 2
 3  /*
 4   *  This is an example program for PGAPack. The objective is to maximize the
 5   *  function y=x^2 in [0,2^16-1].
 6   */
 7
 8  #include <pgapack.h>
 9
10  #define INDLEN  16
11
12  double EvaluationFunction(PGAContext *, int, int);
13
14  /*******************************************************************
15   *                        main program                           *
16   *******************************************************************/
17  int main( int argc, char **argv ) {
18      PGAContext *ctx;
19
20      ctx = PGACreate(&argc, argv, PGA_DATATYPE_BINARY, INDLEN, PGA_MAXIMIZE);
21      PGASetPopSize(ctx, 20);
22      PGASetMaxGAIterValue(ctx, 100);
23      PGASetPrintFrequencyValue(ctx, 1);
24      PGASetRandomSeed(ctx, 1);
25
26      PGASetUp(ctx);
27      PGARun(ctx, EvaluationFunction);
28      PGADestroy(ctx);
29
30      return(0);
31  }
32
33
34  /*******************************************************************
35   *    user defined evaluation function                           *
36   *    ctx - contex variable                                      *
37   *    p   - chromosome index in population                       *
38   *    pop - which population to refer to                         *
39   *******************************************************************/
40  double EvaluationFunction(PGAContext *ctx, int p, int pop) {
41      int int_val, stringlen;
42
43      stringlen = PGAGetStringLength(ctx);
44      int_val = PGAGetIntegerFromBinary(ctx, p, pop, 0, stringlen-1);
45
46      return((double) int_val*int_val);
47  }
48
49
```