```
/*-----------------------------------------------------------------
Copyright (c) 2018 Author: Jagadeesh Vasudevamurthy
file: p1test.cpp

On linux:
g++ p1.cpp p1test.cpp
valgrind a.out

-----------------------------------------------------------------*/

/*-----------------------------------------------------------------
             YOU CANNOT CHANGE ANYTHING IN THIS FILE
-----------------------------------------------------------------*/

/*-----------------------------------------------------------------
This file test p1 object
-----------------------------------------------------------------*/

/*-----------------------------------------------------------------
All includes here
-----------------------------------------------------------------*/
#include "p1.h"

/*-----------------------------------------------------------------
print n empty lines
-----------------------------------------------------------------*/
void emptylines(int n) {
  for (int i = 0; i < n ; ++i) {
    cout << endl;
  }
}

/*-----------------------------------------------------------------
test bed
-----------------------------------------------------------------*/
void testbed() {
  const int n = 3 ;
  p1 a ;

  a.print_usa() ;
  emptylines(n) ;
  a.print_n_n2_n3();
  emptylines(n) ;
  a.a_power_b();
  emptylines(n) ;
  a.two_power_n();
  emptylines(n) ;
  a.a1(3,8);
  emptylines(n) ;
```

```
  a.a2(3,8);
  emptylines(n) ;
  a.a3(3,8);
  emptylines(n) ;
  a.a4(3,8);
  emptylines(n) ;
}

/*-----------------------------------------------------------------
main
-----------------------------------------------------------------*/
int main() {
  testbed() ;
  return 0 ;
}

#if 0
/*
XXX   XXX  XXXX X   XXX
X     X  X    XX     X
X     X  X     X    X X
X     X  X          X X
X     X   XXX      X   X
X     X      XX    X   X
X     X        X   XXXXX
X     X  X     X  X     X
XX   XX  XX    X  X     X
XXX    X XXXX  XXX   XXX


n   n^2   n^3
1    1     1
2    4     8
3    9    27
4   16    64
5   25   125
6   36   216
7   49   343
8   64   512
9   81   729


a   b          a^b
1   2            1
2   3            8
3   4           81
4   5         1024
```

```
 99  5   6        15625
100  6   7       279936
101  7   8      5764801
102
103
104
105  n       2^n
106  0         1
107  1         2
108  2         4
109  3         8
110  4        16
111  5        32
112  6        64
113  7       128
114  8       256
115  9       512
116  10      1024
117  11      2048
118  12      4096
119  13      8192
120  14     16384
121  15     32768
122  16     65536
123  17    131072
124  18    262144
125  19    524288
126  20   1048576
127
128
129
130  3
131  3 4
132  3 4 5
133  3 4 5 6
134  3 4 5 6 7
135  3 4 5 6 7 8
136
137
138
139  3
140  4 3
141  5 4 3
142  6 5 4 3
143  7 6 5 4 3
144  8 7 6 5 4 3
145
146
147
```

```
148  3 4 5 6 7 8
149  3 4 5 6 7
150  3 4 5 6
151  3 4 5
152  3 4
153  3
154
155
156
157  3 4 5 6 7 8
158  3 4 5 6 7
159  3 4 5 6
160  3 4 5
161  3 4
162  3
163
164  */
165  #endif
166
167  //EOF
168
```