```pascal
 1: {$mode objfpc}
 2: program PointerTests;
 3:
 4: procedure Main();
 5: var
 6:   i: Integer;
 7:   ip: ^Integer;
 8: begin
 9:   i := 10;
10:   ip := @i;
11:
12:   WriteLn('----------------------------------------');
13:   WriteLn(' Where are the Local Variables? ');
14:   WriteLn('----------------------------------------');
15:   WriteLn('The address of i is ', HexStr(Addr(i)));
16:   WriteLn('The address of ip is ', HexStr(Addr(ip)));
17:   WriteLn('----------------------------------------');
18:
19:   WriteLn('The value of i is ', i);
20:   WriteLn('The value of ip is ', HexStr(ip));
21:   WriteLn('The value pointed to by ip is (ip^) ', ip^);
22:
23:   WriteLn('----------------------------------------');
24:   WriteLn('Changing value via ip^');
25:   ip^ := 20;
26:   WriteLn('The value pointes to by ip is now ', ip^);
27:   WriteLn('The value of i is ', i);
28:   WriteLn('----------------------------------------');
29:
30:   WriteLn('Dynamically allocating space for ip');
31:   New(ip);
32:   WriteLn('The value of ip is ', HexStr(ip));
33:   WriteLn('The value pointed to by ip is ', ip^);
34:   WriteLn('----------------------------------------');
35:
36:   WriteLn('Changing value via ip^');
37:   ip^ := 30;
38:   WriteLn('The value pointed to by ip is now ', ip^);
39:   WriteLn('The value of i is ', i);
40:   WriteLn('----------------------------------------');
41:
42:   WriteLn('Disposing ip and assigning to nil');
43:   Dispose(ip);
44:   ip := nil;
45:
46:   WriteLn('The value in ip is ', HexStr(ip));
47:   WriteLn('The value ip points to by ip is (crash!) ', ip^);
48: end;
49:
50: begin
51:   Main();
52: end.
```