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| EX 2.69 |
| #include <stdio.h>  unsigned rotate\_left(unsigned x, int n)  {  int w = sizeof(int) << 3;  return x << n | x >> (w - n);  }  int main()  {  printf("%x\n", rotate\_left(0x12345678, 0));    printf("%x\n", rotate\_left(0x12345678, 4));    printf("%x\n", rotate\_left(0x12345678, 20));  return 0;  } |
| EX 2.78 |
| #include <stdio.h>  #include <limits.h>  int divide\_power2(int x, int k)  {  int flag = x & INT\_MIN;  (flag == INT\_MIN && (x = x + (1 << k) - 1));  return x >> k;  }  int main()  {  int x = INT\_MAX;  printf("%x\n%x\n", divide\_power2(x,1), x / 2 );  printf("%x\n%x\n", divide\_power2(x, 2), x / 4);    x = INT\_MIN;  printf("%x\n%x\n", divide\_power2(x, 1), x / 2);  printf("%x\n%x", divide\_power2(x, 2), x / 4);  return 0;  } |
| EX 2.80 |
| #include <stdio.h>  #include <limits.h>  int threefourths(int x)  {  int flag = x & INT\_MIN;  int x1 = x & ~0x3;  int x2 = x & 0x3;  int X1 = (x1 >> 2) + (x1 >> 1);  int X2 = (x2 << 1) + x2;  (flag == INT\_MIN && (X2 += ((1 << 2) - 1)));  X2 = X2 >> 2;  return X1 + X2;  }  int main()  {  printf("%d\t%d\n", threefourths(199), 199 \* 3 / 4);  printf("%d\t%d\n", threefourths(-199), -199 \* 3 / 4);  return 0;  } |