The following code contains the missing numbers.

```cpp
ap_int<2> encoder4x2(ap_uint<4> a) {
  ap_int<2> code;

  if (a[3] == 1) {
    code = 3;
  } else if (a[2] == 1) {
    code = 2;
  } else if (a[1] == 1) {
    code = 1;
  } else {
    code = 0;
  }

  return code;
}
```