A. What are the byte offsets of all the fields in the structure?

Field	a	b	c	d	e	f	g	h
size	8	2	8	1	4	1	8	4
offset	0	8	16	24	28	32	40	48

B. What is the total size of the structure? The total size of the structure is 56 bytes. The end of the structure must be padded with 4 bytes to satisfy the 8 bytes alignment.

C. Rearrange the fields of the structure to minimize wasted space, and then show the byte offsets and total size of the rearranged structure.

One strategy that works, when all data element have a length equal to a power of 2, is to order the structure elements in descending order of size. This leads to a declaration

```
struct {
char *a;
double c;
long g;
float e;
int h;
short b;
char d;
char f;
}
```

with the following offsets:

Field	a	c	g	e	h	b	d	f
size	8	8	8	4	4	2	1	1
offset	0	8	16	24	28	32	34	35

The structure must be padded by 4 bytes to satisfy the 8-byte alignment requirement, giving a total of 40 bytes.