COMP - Memory Packing and Alignment (MIEIC - Compilers - 2021)

How fields in structs in C are organized in memory?

* This form will record your name, please fill your name.

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1. Calvin intends to save bytes in a particular program that needs to store a large number of registers. How many bytes are needed to store each register with the type given by the following struct?

```
struct s1
{
      char a;
      short a1;
      char b1;
      float b;
      int c;
      char e;
      double f;
};
```

   ○ 32

   ○ 28

   ○ 24

2. How many bytes are needed to store each register with the type given by the following struct?

struct s2
{
     char a;
     char b1;
     char e;
     short a1;
     float b;
     int c;
     double f;
};

- ○ 32
- ○ 28
- ○ 24

3. How many bytes are needed to store each register with the type given by the following struct?

struct s3
{
     double f;
     char a;
     short a1;
     char b1;
     float b;
     int c;
     char e;
};

- ○ 32
- ○ 28
- ○ 24

4. Report what you get by printing the sizes of the three structs, e.g., using the following C code:
printf("size of s1: %d bytes \n", sizeof(struct s1));
printf("size of s2: %d bytes \n", sizeof(struct s2));
printf("size of s3: %d bytes\n", sizeof(struct s3));

	32 bytes	28 bytes	24 bytes
s1	○	○	○
s2	○	○	○
s3	○	○	○

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