課題4

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ソースコード

```c
#include <stdio.h>

int a[10] = {1,2,5,12,29,70,169,408,985,2378};

int main(void){
    int* pa;
    int* pb;

    printf("%p:[%2d]←a[0]\n", &a[0], a[0]);
    printf("%p:[%2d]←a[1]\n", &a[1], a[1]);
    printf("%p:[%2d]←a[2]\n", &a[2], a[2]);
    printf("%p:[%2d]←a[3]\n", &a[3], a[3]);

    printf("a=%p[%2d] &a[0]=%p[%2d]\n", a, *a, &a[0], a[0]);
    printf("a+1=%p[%2d] &a[1]=%p[%2d]\n", a+1, *(a+1), &a[1], a[1]);
    printf("a+2=%p[%2d] &a[2]=%p[%2d]\n", a+2, *(a+2), &a[2], a[2]);
    printf("a+3=%p[%2d] &a[3]=%p[%2d]\n", a+3, *(a+3), &a[3], a[3]);

    pa = a;
    pb = a+3;
    printf("&pa=%p,pa=%p,*pa=%d\n", &pa,pa,*pa);
    printf("&pb=%p,pb=%p,*pb=%d\n", &pb,pb,*pb);

    pb=pb+1;
    printf("pb=%p[%2d]\n", pb, *pb);
    printf("pb - pa = %ld\n",pb-pa);

    return 0;

}
```

結果

```
masuda@kubo-ZA9C-R49:~/github/C_Intermediate/src$ ./program042
0x55805c83d020:[ 1]←a[0]
0x55805c83d024:[ 2]←a[1]
0x55805c83d028:[ 5]←a[2]
0x55805c83d02c:[12]←a[3]
```

```
a=0x55805c83d020[ 1] &a[0]=0x55805c83d020[ 1]
a+1=0x55805c83d024[ 2] &a[1]=0x55805c83d024[ 2]
a+2=0x55805c83d028[ 5] &a[2]=0x55805c83d028[ 5]
a+3=0x55805c83d02c[12] &a[3]=0x55805c83d02c[12]
&pa=0x7ffec6687108,pa=0x55805c83d020,*pa=1
&pb=0x7ffec6687110,pb=0x55805c83d02c,*pb=12
pb=0x55805c83d030[29]
pb - pa = 4
```

まとめ

- 配列a[0]はポインタ*a*と同じ意味で、(a+1)はa[1]を指す。
    - aはアドレスを表して、&a[0]と同じ意味