

$$f(*p_1, p_2) \in$$

$$*p_1 = 2 * p_2$$

3

$$a = 5 \quad b = 6$$

$$\text{int } t[2] = \{3, 4\}$$

$$\text{int } *p = \text{NULL}, *q = \text{NULL}$$

$$f(*a, b) = 2 * 6 \quad a = 12$$

$$a = 12 \quad b = 6$$

$$1) 12, 6$$

$$p = *a \quad q = *b$$

$$f(q, *p) = *q = 12 * 2$$

$$2) 12, 24$$

$$a = 12 \quad b = 24$$

$$f(4, 3)$$

$$4 = 3 * 2$$

$$3) 3, 6$$

$$4) 48, 24$$

12				32			
p	p	p	p	p		p	
a	a	a	a	a	a	a	a
b	b	b	b	b			b
a	x	b	b	a	x	b	b
c	x	x	x	c	x	x	x
p	p	p	p	p			p

Question 1 (5 points)

Soient les déclarations suivantes :

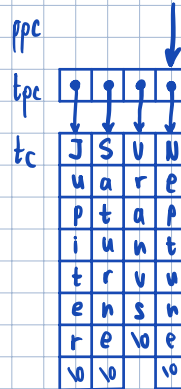
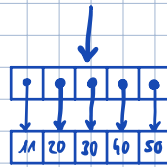
```
int t[] = {10, 20, 30, 40, 50};
int* tp[] = {t, t+1, t+2, t+3, t+4};
int** pp = tp + 3;
```

```
const char* tc[] = {"Jupiter", "Saturne", "Uranus", "Neptune"};
const char** tpc[] = {tc, tc+1, tc+2, tc+3};
const char*** ppc = &tpc[2];
```

Quelle valeur fournit chacune des expressions ci-dessous ?

(Conseil : Aidez-vous d'un petit dessin)

- 1) $tp[3][-1] = 30$ ✓
- 2) $**tp[+++t] = 10 + 11 = 21$ ✓
- 3) $+++pp-- = 40 \times 41$
- 4) $(--*pp)[-1] = 11$ ✓
- 5) $*--pp-(tp+3) = -2$ ✓
- 6) $***tpc = 'U' \times 'J'$
- 7) $+++tc[3] = 'r' \times 'e'$
- 8) $+++ppc = \text{"Neptune"} \text{ "eptune"}$
- 9) $*--*(tpc+1)+3 = \text{"Saturne"} \text{ "iter"}$
- 10) $+++ppc[0][-2] = 'a'$ ✓

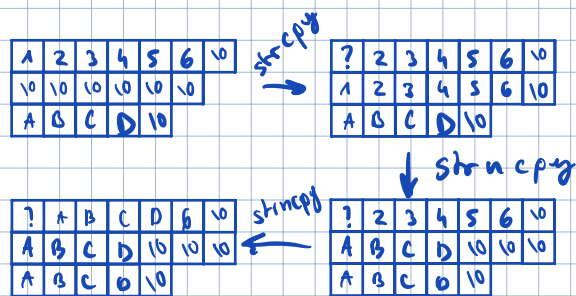


b) (2 pts)

Que va afficher à l'exécution le programme C ci-dessous ?

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
```

```
int main(void) {
    char chaine1[] = "123456";
    char chaine2[6];
    const char* chaine3 = "ABCD";
    strcpy(chaine2, chaine1);
    strncpy(chaine2, chaine3, strlen(chaine2));
    printf("%s\n", strncpy(chaine1 + 1, chaine3, strlen(chaine2)));
    return EXIT_SUCCESS;
}
```



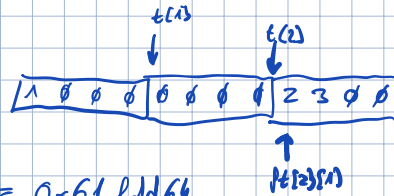
chaine 2 1 2 3 4 5 6 10
 chaine 1 ? 2 3 4 5 6 10

1 2 3 4

0	0	0	1	0	0	1	0	0	0	1	1	0	1	0	0
0	0	0	0	1	0	0	1	0	0	0	1	1	0	1	0
1	0	0	0	0	1	0	0	1	0	0	0	1	1	0	1
2	1	0	0	0	0	1	0	0	1	0	0	0	1	1	0
3	0	1	0	0	0	0	1	0	0	1	0	0	0	1	1
4	1	0	1	0	1	0	0	0	1	0	0	1	0	0	1

0x0091

0x61fdd0

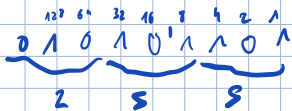


$$t[1] = 0x61fdd64$$

$$*(t+2) = t[2] = 0x61fdd68$$

$$t[2][1] = 0x61fdd68$$

1 7 3



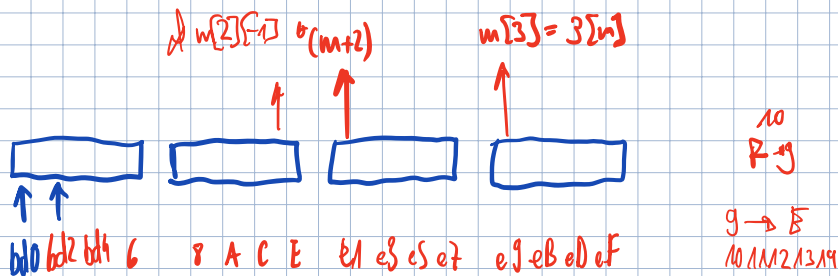
0x1234, 5

Mask = 0x8000

4	0	0	0	1	0	0	1	0	0	1	1	0	1	0	0
3	0	0	1	0	0	1	0	0	0	1	1	0	1	0	0
2	0	1	0	0	1	0	0	0	1	1	0	1	0	0	0
1	0	1	0	0	1	0	0	0	1	1	0	1	0	0	0
0	0	1	0	0	0	1	1	0	1	0	0	0	0	0	1

4 6 8 2

$xm[0][0]$ 0xc3d5fffb0



$c3d5fffb0 + (c3d5fffb0 - c3d5fffb0)$

230

192 to 124

1 1 1 0 0 1 1 0 \rightarrow 0xE6
128 64 32 16 8 4 2 1

$2 \ll 2 + 2 \ll 2 + 2 \ll 2$

$2 \ll 4 \ll 4 \ll 2$

0 0 0 0 0 0 1 0

1
1 0 0 0 0 0 0 0 1 0 0 0 0 0
1 0 0 0 0 0 0 0 1 0 0 0 0 0

0xabcd

4	1	0	1	0	1	0	1	1	1	1	0	0	1	1	0	1
3	1	1	0	1	0	1	0	1	1	1	1	0	0	1	1	0
2	1	0	1	0	1	0	1	0	1	1	1	0	0	1	1	1
1	1	0	1	0	1	0	1	0	1	1	1	1	0	0	1	1
0	1	1	0	1	0	1	0	1	0	1	1	1	1	0	0	0
	0	1	1	0	1	0	1	0	1	0	1	1	1	1	0	0

6 9 5 E

192

128 64 32 16 8 4 2 1	1100 A
1 1 0 1 1 1 0 0	1011 B
E F 4	1100 C
D C	1101 D
	1110 E
	1111 F

n=1

(n+2)/5
3.0/5 + 3.0/5

0.6 11

5's < 0? (-a) : (a)

(5 < 0)? (-a) : (a)

5's = 0101
0101
0

0101
1 1011

1110 0001
0010

-2

0x1234

0001001000110100
1010100010010001
a 0 9 1

ddx	00	14
des	00	14
dfs	00	14

deo - (df0 - df4)
deo - (-4)
deo + 4
de 4

128 64 32 16 8 4 2 1
1 0 1 0 1 1 0 1
2 6 6
A D

a	a	a	a	x	x	x	x
b	b	b	b	b	b	b	b
c							c
b	b	b	x	c	c	x	x
a	d	a	d	d	d	d	x

a	a	a	a
b	b	b	b
c	c	c	c
b	b	b	x
c	c	x	a
a	d	a	d
a	d	a	x

$$78 = 86$$

t =

50	b2	b4	56
1	x	x	x
1	2	x	x
1	2	3	x
1	2	3	4

$$\begin{array}{r} 10110010 \\ - 11000000 \end{array}$$

$$\begin{array}{l} 160 \\ 128 + 32 + 16 + 2 = 178 \\ 128 + 64 = 192 \end{array}$$

$$178 - 192 = -14 = -E$$

$$b2 - c0$$

$$b0$$