

BT3 C 2022 2 Solution

1- The instruction and in C is:

a- &

b- and

C- &&

d- (a) and (c)

2- Which of the following is not allowed in a relational statement in C?

a- !=

b- ==>

C- >

d- ==

3- Which of the following statements shows the correct hierarchy of arithmetic operations in C?

a) / + * % -

b) / % + * -

c) - / % + - *

d) / % * + -

4- What is the result of the float variable a; if a = (float)27/5?

a- 5.400000

b- 5.000000

C-4.5

d- 4.500000

5- What will be the output of the following arithmetic expression?

```
Int a = 14, b=5,c; c = a <b;
```

```
printf("%d",c);
```

a- 0

b- error

c- 1

d- garbage value

6- What will be the output of the following arithmetic expression?

$a=8+(-2) * 4+ 14\% 2$

a- 7

b- 0

C- 31

d- -7

7- The identifier "%f" is used for:

a- float

b- double

c- int

d- single

8- What is the answer of $9\% 2$?

a- 4.5

b- 1

c- 4.0

d- 5

9- What is the result after running the following code, if a is 15, b is 8 and c is 3?

```
if ((a > b) || (a <= c))
```

```
    a = a + 3;
```

```
c=c-1;
```

a- a=18, c=3

b- a=15, c=2

c- a=18, c=2

d- a=15, c=3

10- What will be the output of the following code?

```
int i=7;
while (i<=8){
printf("%d ", i);
i=i+1;}
printf("%d ",i);
```

a- 1 2 3 4 5 6 7 8

b- 1 2 3 4 5 6 7

c- 7 8 9

d- 78

II-Write, in C language, the programs that display the following sequences:

a- 5 9 13 17 21 25 29

```
#include <stdio.h>
int main() {
    int i;
    for (i = 5; i <= 29; i += 4) {
        printf("%d ", i);
    }
    return 0;
}
```

b- 60 57 54 51 48 45 42

```
#include <stdio.h>
int main() {
    int i;

    for (i = 60; i >= 42; i -= 3) {
        printf("%d ", i);
    }
    return 0;
}
```

III- Write a program in C language which allows to:

a- Create a one-dimensional array V containing 7 integers.

b- Fill the Table V with integers between -30 and 30.

c- Calculate and display the sum of negative numbers in V.

d- Display the rank (index) of the positive numbers existing in this table.

e- Create from table V another table T knowing that:

- If the value of the table V is positive then we put 1 in the value at the same index in T.

- If the value of the table V is negative then we put a 0 in the value of the same index in T.

Exemple :

Tableau V

<i>12</i>	<i>-14</i>	<i>10</i>	<i>13</i>	<i>-15</i>	<i>14</i>	<i>-9</i>
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Tableau T

<i>1</i>	<i>0</i>	<i>1</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>0</i>
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```

#include <stdio.h>
int main() {
    int V[7]; // One-dimensional array V containing 7 integers
    int T[7]; // Another table T created from V
    int i, sumOfNegatives = 0;

    printf("Enter 7 integers between -30 and 30:\n");
    for (i = 0; i < 7; i++) {
        do {
            printf("Enter element %d: ", i + 1);
            scanf("%d", &V[i]);
        } while (i < 7);
    }
    // Calculate and display the sum of negative numbers in V
    for (i = 0; i < 7; i++) {
        if (V[i] < 0) {
            sumOfNegatives += V[i];
        }
    }
    printf("Sum of negative numbers: %d\n", sumOfNegatives);

    // Display the rank (index) of the positive numbers in V
    printf("index of positive numbers: ");
    for (i = 0; i < 7; i++) {
        if (V[i] > 0) {
            printf("%d ", i);
        }
    }
    printf("\n");

    // Create table T from table V based on positive/negative values
    for (i = 0; i < 7; i++) {
        if (V[i] > 0) {
            T[i] = 1;
        } else {
            T[i] = 0;
        }
    }

    // Display the values in table T
    printf("Table T: ");
    for (i = 0; i < 7; i++) {
        printf("%d ", T[i]);
    }
    printf("\n");

    return 0;
}

```