**INSTITUTO TECNOLÓGICO Y DE ESTUDIOS SUPERIORES DE MONTERREY**

# Campus Querétaro

**Nombre de la Materia:** Solución de problemas con programación **Nombre:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Nombre del Profesor:** Lizethe Pérez Fuertes **Matrícula:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**Ejercicio 1**

int i = 0;

int n = 5;

while (i <= n)

{

if (i % n == 0)

{

i = i + 1;

}

else

{

i = i \* 2;

}

}

¿Cuál es el valor final de i? **8**

|  |  |
| --- | --- |
| **i** | **n** |
| 0 | 5 |
| 1 |  |
| 2 |  |
| 4 |  |
| **8** |  |

**Ejercicio 2**

int a = 10, b = 3, c, bandera = 1;

|  |  |  |  |
| --- | --- | --- | --- |
| **a** | **b** | **c** | **bandera** |
| 10 | 3 | 1 | 1 |
| 3 | 1 | **0** | **0** |
| **1** | **0** |  |  |

do

{

c = a % b;

a = b;

b = c;

if (c == 0)

{

bandera = 0;

}

} while (bandera == 1);

¿Cuáles son los valores finales a, b y c? **a = 1, b = 0, c = 0**

|  |  |  |
| --- | --- | --- |
| **sum** | **i** | **j** |
| 0 | 0 | 0 |
| 1 |  | 1 |
| 3 |  | 2 |
|  |  | 3 |
| 4 | 1 | 0 |
| 5 |  | 1 |
| 7 |  | 2 |
|  |  | 3 |
| 9 | 2 | 0 |
| 10 |  | 1 |
| **12** |  | 2 |
|  |  | 3 |
|  | 3 |  |

**Ejercicio 3**

int sum = 0;

for (int i = 0; i < 3; i++)

{

sum = sum + i;

for (int j = 0; j < 3; j++)

{

sum = sum + j;

}

}

Valor de sum = **12**

**Ejercicio 4**

|  |  |  |
| --- | --- | --- |
| **sum** | **i** | **j** |
| 0 | 0 | 0 |
| 1 |  | 1 |
| 3 |  | 2 |
| 4 | 1 | 3 |
| 5 |  | 1 |
| 7 |  | 2 |
| 9 | 2 | 3 |
| **11** |  | 2 |
|  | 3 | 3 |

int sum = 0;

for (int i = 0; i < 3; i++)

{

sum = sum + i;

for (int j = i; j < 3; j++)

{

sum = sum + j;

}

}

Valor de sum = **11**

**Ejercicio 5**

|  |  |  |
| --- | --- | --- |
| **sum** | **i** | **j** |
| 0 | 0 | 3 |
| 3 |  | 2 |
| 5 |  | 1 |
| 6 | 1 | 0 |
| 7 |  | 3 |
| 10 |  | 2 |
| 12 |  | 1 |
| 13 | 2 | 0 |
| 15 |  | 3 |
| 18 |  | 2 |
| 20 |  | 1 |
| **21** | 3 | 0 |

int sum = 0;

for (int i = 0; i < 3; i++)

{

sum = sum + i;

for (int j = 3; j > 0; j--)

{

sum = sum + j;

}

}

Valor de sum = **21**