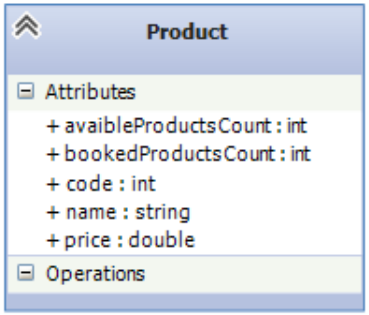
EJERCICIOS CAJA BLANCA

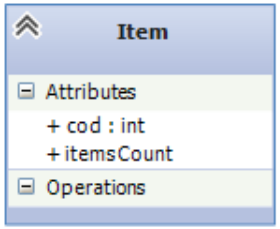
Técnica del camino básico. Ejercicios 3 y 4

Ejercicio 3

```
static public int bookItems(ArrayList products, Item item, out double cost, out string message)
{
    int j;
    Product product;
    j = 0;
    message = "Product not found";
    cost = 0;

    while ((j < products.Count ) && (message.Equals("Product not found")))
    { product = products[j] as Product;
        if (item.code == product.code)
        { if (item.itemsCount <= product.availableProductsCount)
            {
                cost = cost + item.itemsCount * product.price;
                product.availableProductsCount -= item.itemsCount;
                product.bookedProductsCount += item.itemsCount;
                message = "Product booked";
            }
            else
            {
                message = "Not enough products";
            }
        }
        else
        {
            j++;
        }
    }
    return j;
}
```





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                message = "Product booked";
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            {
                message = "Not enough products";
            }
        }
        else
        {
            j++;
        }
    }
    return j;
}
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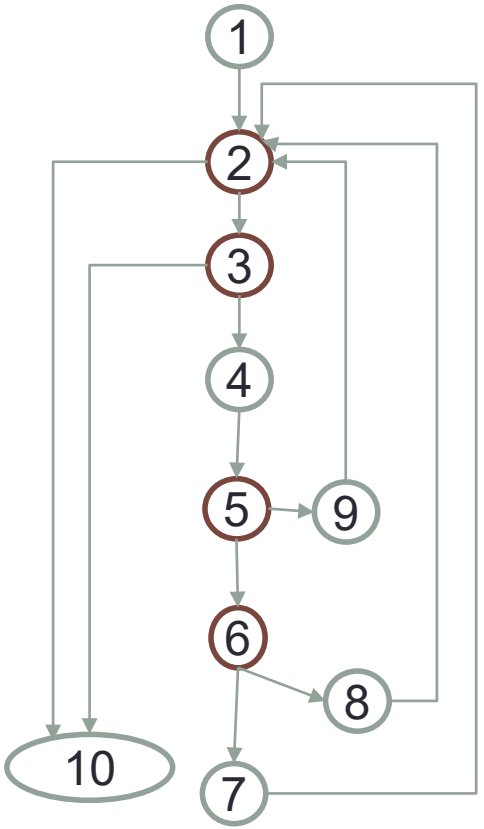
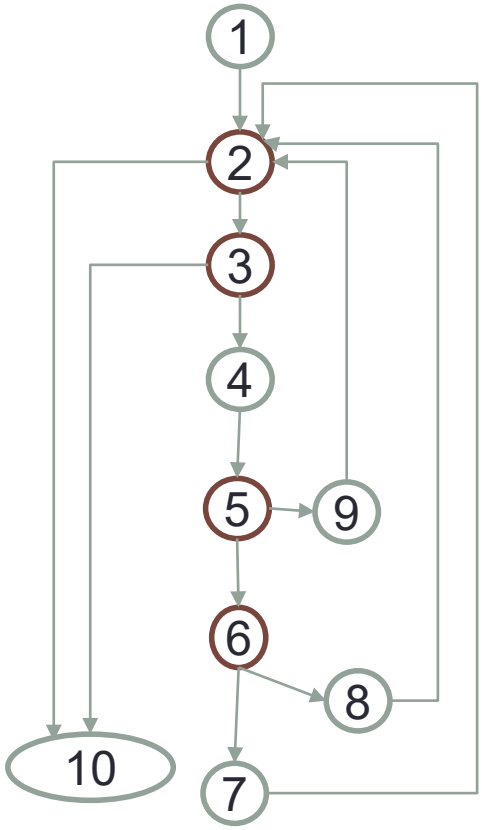


V(G)= 5
Areas = 5
Nodos predicado= 4 → 4+1=5
Nodos = 10 → 13-10+2 =5
Aristas = 13

Ejercicio 3

Path
,
{1,2,10} Sin productos
{1,**2,3**,10}
{1,2,**3,4**,5,9,2,10} Solo un product que no es el deseado
{1,2,3,4**,5,6**,8,2,10} Solo un product, que es el buscado pero del que no hay suficiente stock
{1,2,3,4,5,**6,7**,2,310} Solo un product, que es el buscado y del que hay suficiente stock



Ejercicio 3

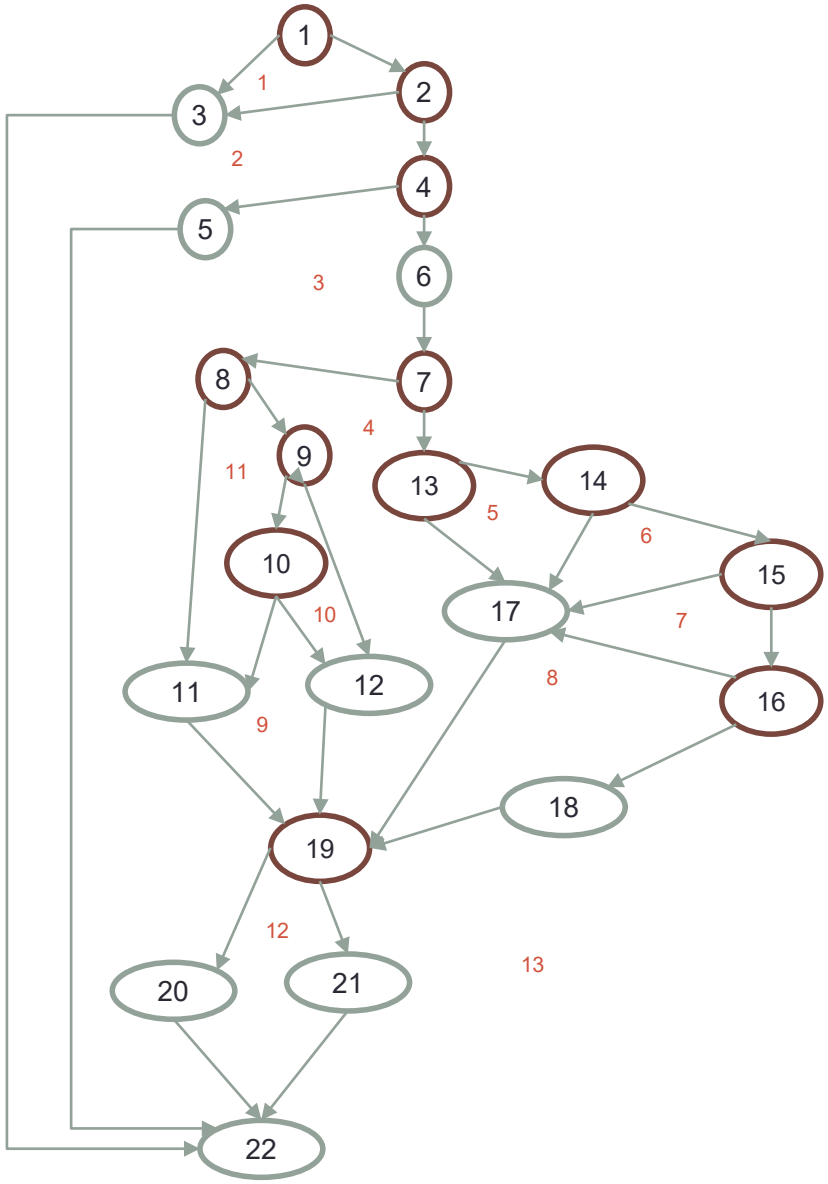
Path	Input		Output			
,	Products	Items	Return	Cost	Message	Products.out
{1,2,10} Sin productos	[ ]	{code=2; itemsCount=5}	0	0,0	Product not found	Sin cambios
{1,2,3,10}	No posible		No posible			
{1,2,3,4,5,9,2,10} Solo un product que no es el deseado	[{code = 5; availableProductsCount =5; bookedProductsCount = 5; price = 10}]	{code=2; itemsCount=10 }	1	0,0	Product not found	Sin cambios
{1,2,3,4,5,6,8,2,10} Solo un product, que es el buscado pero del que no hay suficiente stock	[{code = 2; availableProductsCount = 5; bookedProductsCount = 5; price = 10}]	{code=2; itemsCount=10 }	0	0,0	Not enough products	Sin cambios
{1,2,3,4,5,6,7,2,3,10} Solo un product, que es el buscado y del que hay suficiente stock	[{code = 2; availableProductsCount =15; bookedProductsCount = 5; price = 10}]	{code=2; itemsCount=10 }	0	100	Product booked	[{code = 2; availableProductsCount =5; bookedProductsCount = 15; price = 10}]

Ejercicio 4

```
static public int valid_date(int dd, int mm, int yy)
{
    if (mm < 1 || mm > 12)
    {
        return 0;
    }
    if (dd < 1)
    {
        return 0;
    }

    int days;
    if (mm == 2)
    {
        // leap year
        if (yy % 400 == 0 || (yy % 4 == 0 && yy % 100 != 0))
        {
            days = 29;
        }
        else days = 28;
    }
    else if (mm == 4 || mm == 6 || mm == 9 || mm == 11)
    {
        days = 30;
    }
    else days = 31;

    if (dd > days)
    {
        return 0;
    }
    return 1;
}
```

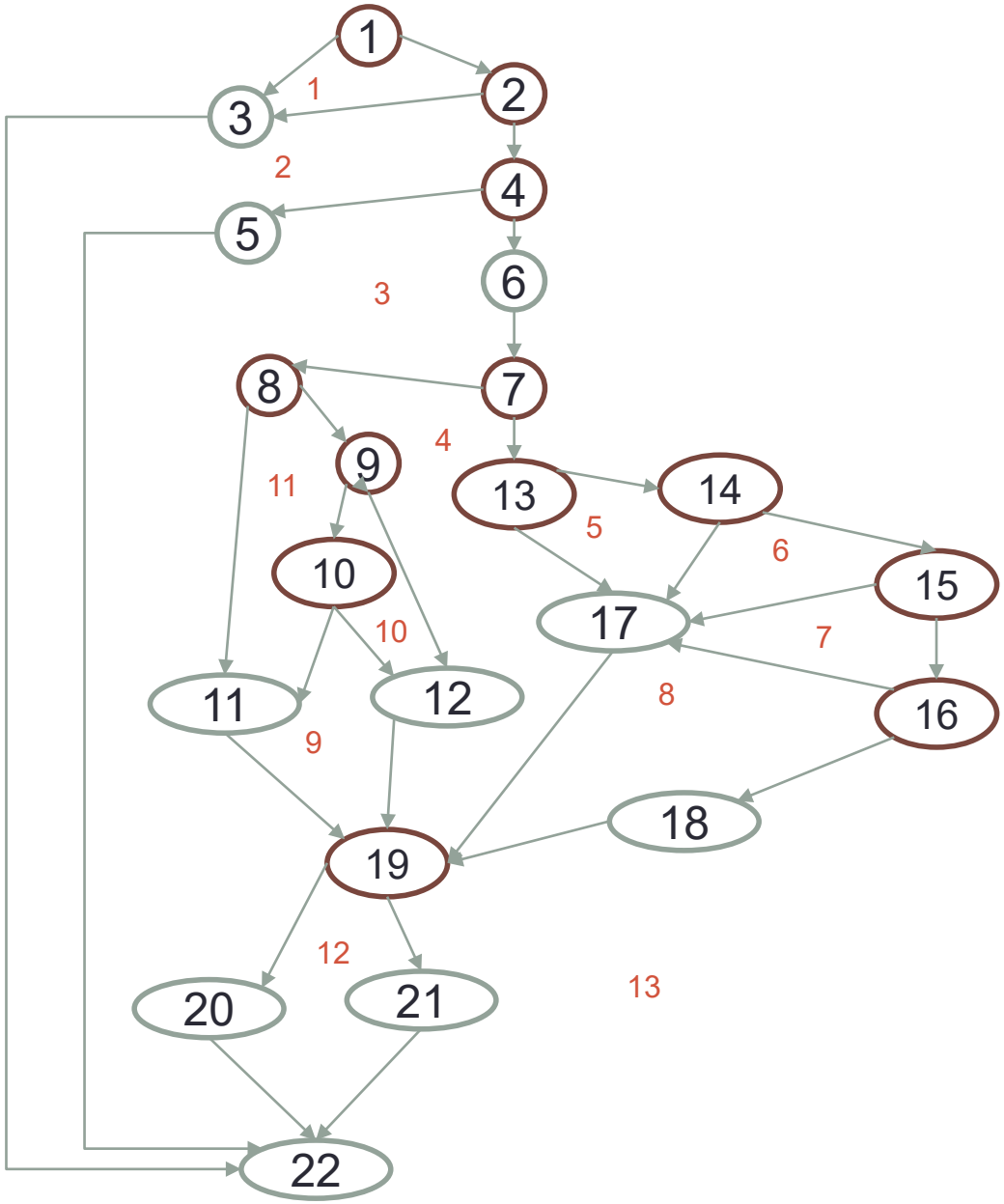
Ejercicio 4

```
static public int valid_date(int dd, int mm, int yy)
{
    if (mm < 1 || mm > 12)
    {
        return 0;
    }
    if (dd < 1)
    {
        return 0;
    }

    int days;
    if (mm == 2)
    {
        // leap year
        if (yy % 400 == 0 || (yy % 4 == 0 && yy % 100 != 0))
        {
            days = 29;
        }
        else days = 28;
    }
    else if (mm == 4 || mm == 6 || mm == 9 || mm == 11)
    {
        days = 30;
    }
    else days = 31;

    if (dd > days)
    {
        return 0;
    }
    return 1;
}
```



Ejercicio 4

V(G)= 13
Areas = 13
Nodos Predicado= 12 → 12+1=13
Nodos = 22 → 33-22+2 =13
Aristas = 33



Ejercicio 4

	Path	Input	Output
1	{1,3,22} Mes <1	mm=-1; dd=any;yy=any	0
2	{1,**2,3**,22} Mes>12	mm=-13; dd=any; yy=any	0
3	{1,**2,4**,5,22} Mes válido. Dias <1	mm=1; dd=-1; yy=any	0
4	{1,2,**4,6**,7,8,11,19,20,22} Febrero, año divisible por 400 (bisiesto). Días>29	mm=2; dd=30; yy=2000;	0
5	{1,2,4,6,**7,13**,17,19,20,22} Abril, Días>30	mm=4; dd=31; yy=any	0
6	{1,2,4,6,7,**13,14**,17,19,20,22} Junio, Días>30	mm=6; dd=31; yy=any	0
7	{1,2,4,6,7,13,**14,15**,17,19,20,22} Sept, Días>30	mm=9; dd=31; yy=any	0
8	{1,2,4,6,7,13,14,**15,16**,17,19,20,22} Nov, Días>30	mm=11; dd=31; yy=any	0
9	{1,2,4,6,7,13,14,15,**16,18**,19,20,22} Dic, Días>30	mm=12; dd=32; yy=any	0
10	{1,2,4,6,7,13,14,15,**16,17**,19,21,22} Dic, Dias válidos	mm=12; dd=31; yy=any	1
11	{1,2,4,6,7,**8,9**,12,19,20,22} Febrero, año no divisible por 400, no divisible por 4. Días>28	mm=2; dd=31; yy=2005	0
12	{1,2,4,6,7,8,**9,10**,11,19,20,22} Febrero. Divisible por 4 y no por 100 (bisiesto). Días>29	mm=2; dd=30; yy=2004	0
13	{1,2,4,6,7,8,**9,10**,11,19,20,22} Febrero. No divisible por 400.Divisible por 4 y por 100 (no bisiesto). Días>28	mm=2; dd=30; yy=2100	0