04 Divisivilidad

División con resto

In[1]:=
```
Quotient[7, 4]
```
Out[1]= 1

In[2]:=
```
Mod[7, 4]
```
Out[2]= 3

In[3]:=
```
QuotientRemainder[7, 4]
```
Out[3]= {1, 3}

In[4]:=
```
QuotientRemainder[89, 33]
```
Out[4]= {2, 23}

In[5]:=
```
QuotientRemainder[-5, 4]
```
Out[5]= {-2, 3}

Números primos

In[6]:=
```
PrimeQ[7]
```
Out[6]= True

In[7]:=
```
PrimeQ[1000]
```
Out[7]= False

In[8]:=
```
PrimeQ[4323]
```
Out[8]= False

In[9]:=
```
PrimeQ[2^32 + 1]
```
Out[9]= False

In[10]:=
```
Prime[1]
```
Out[10]= 2

In[11]:= `Prime[2]`

Out[11]= 3

In[12]:= `Prime[3]`

Out[12]= 5

In[13]:= `Prime[168]`

Out[13]= 997

In[14]:= `NextPrime[1000]`

Out[14]= 1009

In[15]:= `NextPrime[1000, 2](* Segundo Primo *)`

Out[15]= 1013

In[16]:= `IntegerName[1013]`

Out[16]= 1 thousand 13

In[17]:= `NextPrime[1000, -1](* El anterior*)`

Out[17]= 997

In[18]:= `Prime[600]`

Out[18]= 4409

In[19]:= `Prime[650]`

Out[19]= 4831

In[20]:= `Prime[670]`

Out[20]= 5003

In[21]:= `Prime[669](* El último primo anterior a 5000 *)`

Out[21]= 4999

In[22]:= `PrimePi[5000](* Primos menores a 5000*)`

Out[22]= 669

Factorización

In[23]:= `FactorInteger[260]`

Out[23]= {{2, 2}, {5, 1}, {13, 1}}

In[24]:= `2^2 * 5 * 13`

Out[24]= 260

```
In[25]:= FactorInteger[-260]
Out[25]= {{-1, 1}, {2, 2}, {5, 1}, {13, 1}}

In[26]:= FactorInteger[260 / 34](*Simplifica y descompone *)
Out[26]= {{2, 1}, {5, 1}, {13, 1}, {17, -1}}

In[27]:= 45!
Out[27]= 119 622 220 865 480 194 561 963 161 495 657 715 064 383 733 760 000 000 000

In[28]:= Factorial[45]
Out[28]= 119 622 220 865 480 194 561 963 161 495 657 715 064 383 733 760 000 000 000

In[29]:= FactorInteger[45!]
Out[29]= {{2, 41}, {3, 21}, {5, 10}, {7, 6}, {11, 4}, {13, 3},
  {17, 2}, {19, 2}, {23, 1}, {29, 1}, {31, 1}, {37, 1}, {41, 1}, {43, 1}}
```

Divisores

```
In[30]:= Divisors[23]
Out[30]= {1, 23}

In[31]:= Divisors[60]
Out[31]= {1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60}

In[32]:= GCD[612, 5292]
Out[32]= 36

In[33]:= LCM[612, 5292]
Out[33]= 89 964

In[34]:= LCM[612, 5292, 48]
Out[34]= 359 856
```