

DIDAMATICA 2011

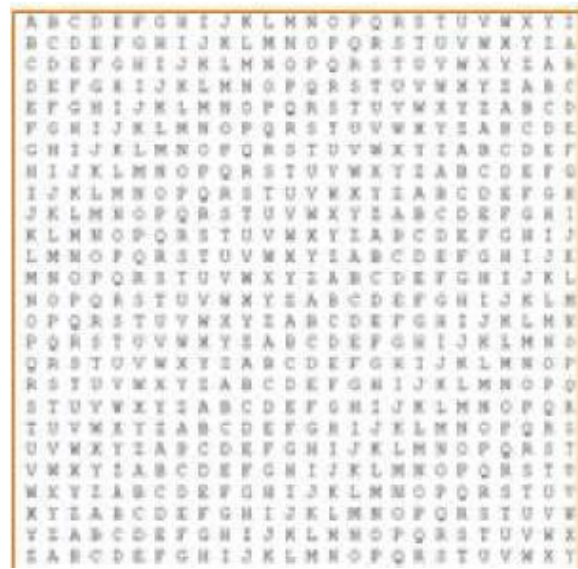
ISTITUTO TECNICO COMMERCIALE "G. CALO" "
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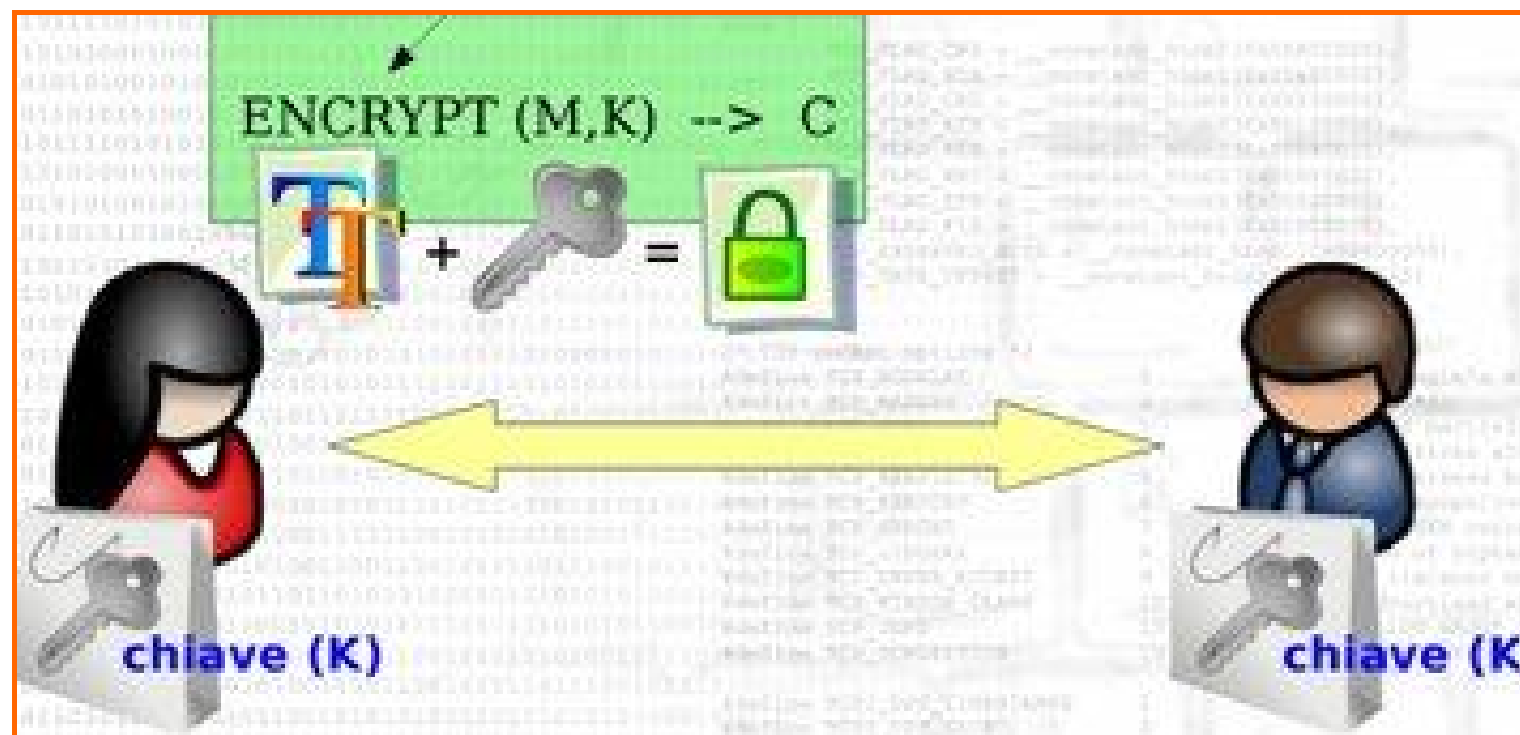
Scitola



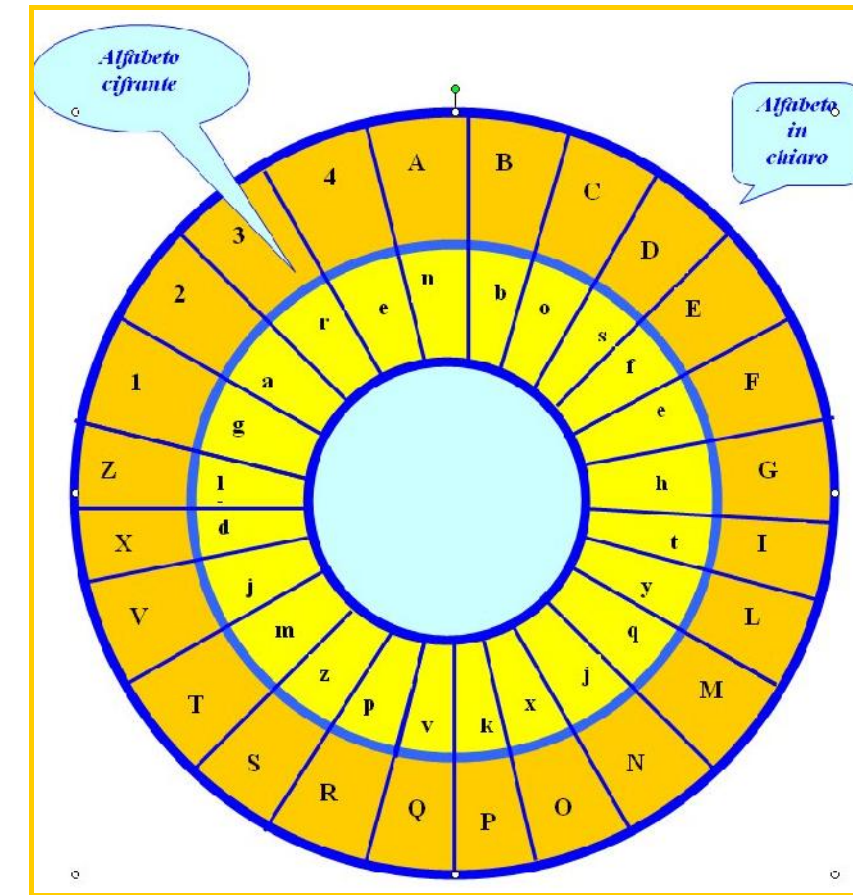
Tabula recta Vigenere

#	1	2	3	4	5
1	a	b	c	d	e
2	f	g	h	i	j
3	k	l	m	n	o
4	p	r	s	t	u
5	v	w	x	y	z

Scacchiera di Polibio



Crittografia a chiave segreta



Disco di Alberti



Enigma

×	2	3	×	5	×	7	×	×	×
11	×	13	×	×	×	17	×	19	×
×	×	23	×	×	×	×	×	29	×
31	×	×	×	×	×	37	×	×	×
41	×	43	×	×	×	47	×	×	×
×	×	53	×	×	×	×	×	59	×
61	×	×	×	×	×	67	×	×	×
71	×	73	×	×	×	79	×	×	×
×	×	83	×	×	×	×	×	89	×
×	×	×	×	×	×	97	×	×	×

Crivello di Eratostene



Numero primo di Mersenne
 $M_{43} = 2^{30402457} - 1$



Numeri primi



Formula di Fermat
 $F_n = 2^{2^n} + 1$



Eulero

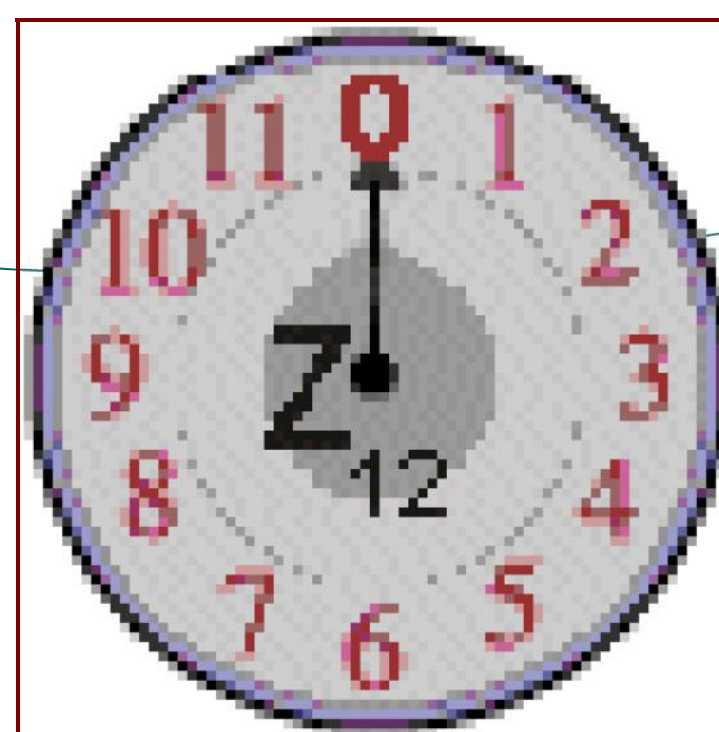
La matematica nella firma digitale

a	=	b	x	q	+	r
420	=	154	x	2	+	112
154	=	112	x	1	+	42
112	=	42	x	2	+	28
42	=	28	x	1	+	14
28	=	14	x	2	+	0

Algoritmo di Euclide



Euclide



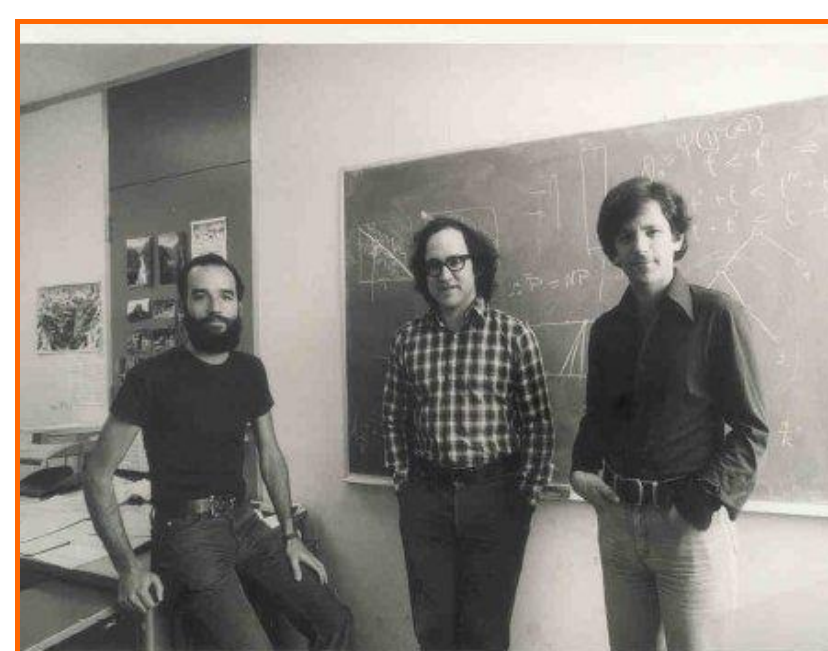
Arithmetica modulare

	1	2	3	4	5	6	7	8	9	10
1	1	1	1	1	1	1	1	1	1	1
2	2	4	8	5	10	9	7	3	6	1
3	3	9	5	4	1	3	9	5	4	1
4	4	5	9	3	1	4	5	9	3	1
5	5	3	4	9	1	5	3	4	9	1
6	6	3	7	9	10	5	8	4	2	1
7	7	5	2	3	10	4	6	8	9	1
8	8	9	6	4	10	3	2	5	7	1
9	9	4	3	5	1	9	4	3	5	1
10	10	1	10	1	10	1	10	1	10	1

Potenza in Z_{11}



Gauss

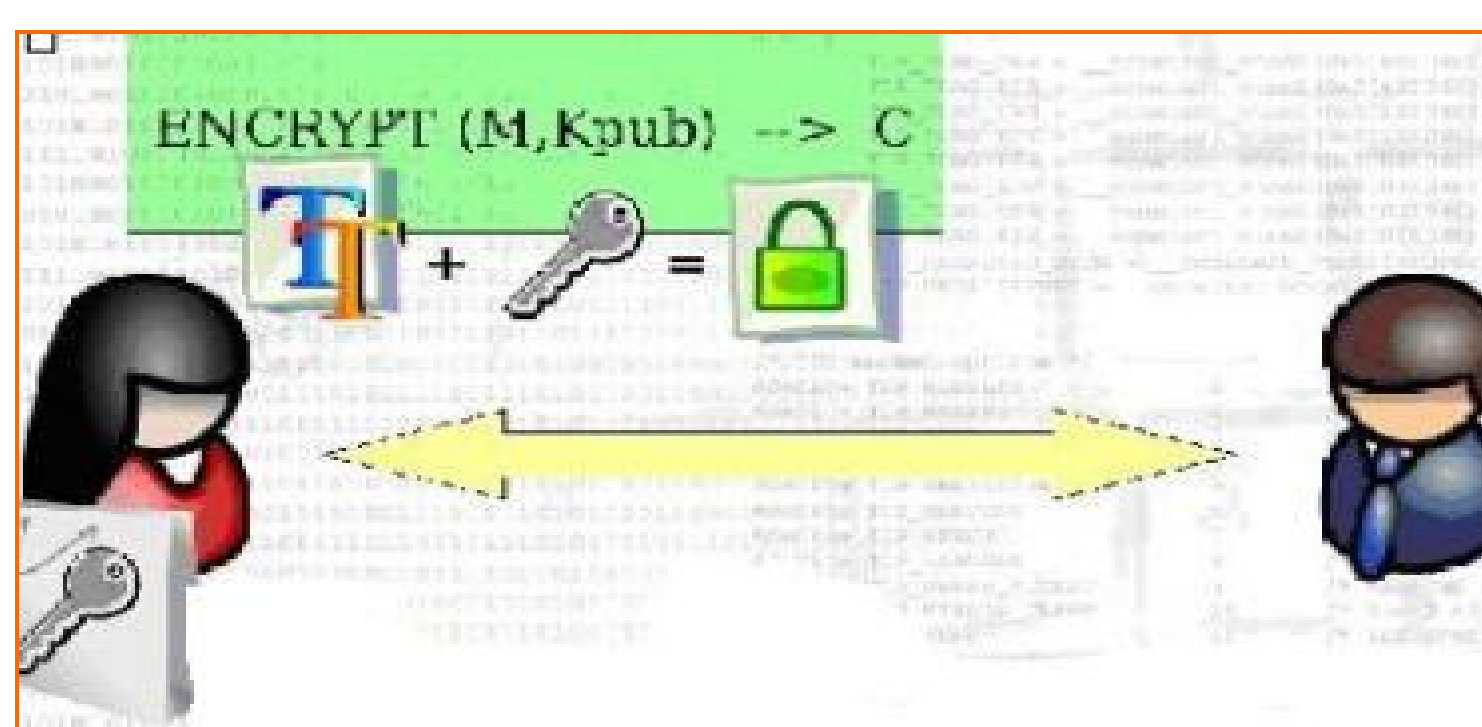


Sistema RSA

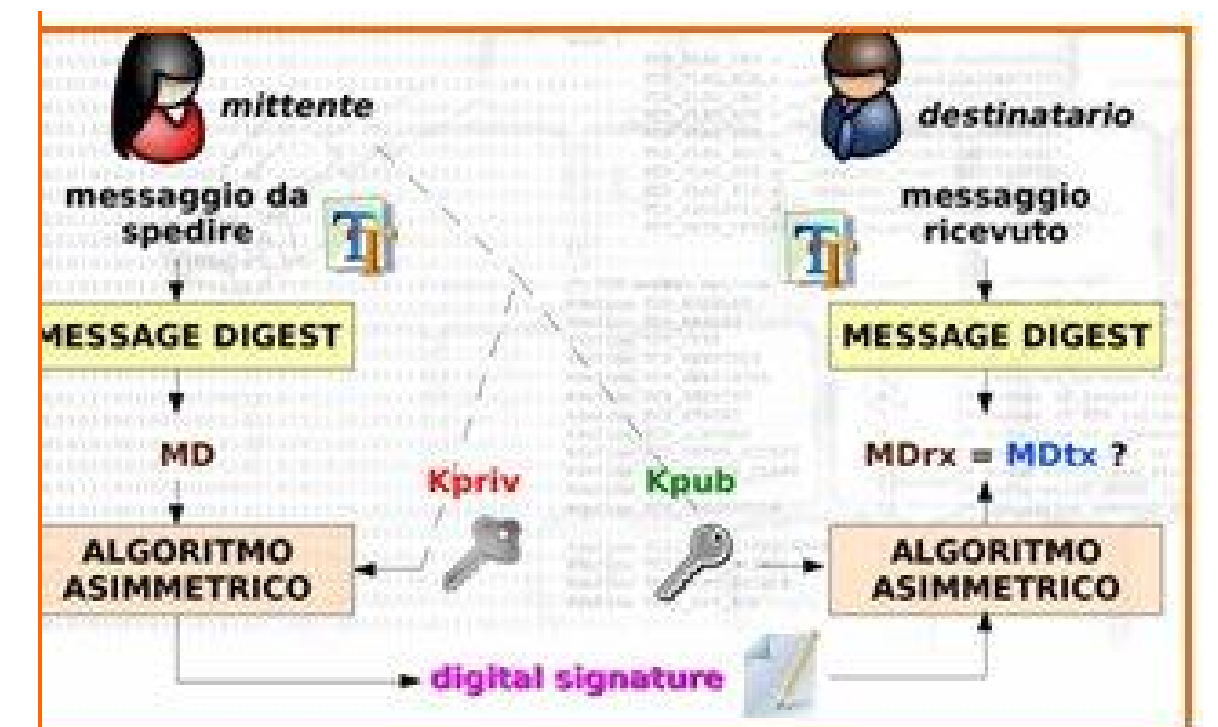
Rivest - Shamir - Adleman

$$a^{\varphi(n)} \equiv 1 \pmod{n}$$

Teorema di Eulero



Crittografia a chiave pubblica



Firma digitale