	CS225 Homework keisuke Yasuda
	Net Ib Lyasuda 2 UIN 669682285
	a cIb = 1395 b cIb 732
2 a	$ \frac{1}{1}(1-\frac{1}{k^{2}}) = \frac{1}{k!}(\frac{1}{k^{2}}) $ $ = \frac{1}{1}(\frac{(ke_{1})(ke_{1})}{k^{2}}) $ $ = \frac{1}{2}(\frac{h+1}{N}) $ $ = \frac{1}{2}(\frac{h+1}{N}) $ $ = \frac{1}{2}(\frac{h+1}{N}) $
6	$3^{2} = 3^{2} \mod 7$ $3^{2} = 2189 = 3 \mod 7$ $3^{3} = 2189 = 3 \mod 7$ $3^{3} = 6561 = 2 \mod 7$ $3^{3} = 2126 \mod 7$
	3 ⁴ =8124 mod9 Cycle per 6 steps 3 ⁵ =243 = 5 mod9
	36 = 929 = 1 mod 7
	1000 = 6(166) +4 3'000 mod 7 = 3 6(166) +4 mod 7
	= (36)166 x 3 mod 7
	= 1 mod 9 x 4 mod 9
	= 4 mod 7
	= 4
C	$\sum_{n=1}^{N} \binom{1}{2}^{n} = \frac{1}{1-\frac{1}{2}} = \frac{1}{2} = \frac{1}{2}$
	No.
	10-61
8	109981 = 109981 = 2 10999
e	log 2 4 2h = log 2 (22) 2h = log 2 2th = 4n log 2
	=4h

C	10911 221 - 109 19 13 = 10919 (221)
6	= 6917 17
	Service de la constant de la constan
	h
3	$[+\sum_{j=1}^{n} \frac{1}{j} = [+1+2x2+2x3x3+2x3x4x4 \cdots h!h]$ $= 2(\frac{1}{2}+\frac{1}{2}+1) \times 2+1 \times 3 \times 3+1 \times 3 \times 4 \times 4 \cdots \frac{h!h}{2})$ $= 2\cdot 3(1+3+4) \times 4 \times 4 \cdots \frac{h!h}{2\cdot 3}$
	= 2(2+2+1×2+1×3×3+1×3×4×4 2)
	= 2.3(11374x7 2.3) $= n!(1+n!)$
	= N! + N!N
	=(N+1)!
4 a	f(n) = 4 699n = n f(n) is O(g(n))
	g(n)=2n+1 g(n) is o(f(n))
	$f(n) \ominus g(n)$
6	$f(n)=n^2$ $g(n)=(\sqrt{2})^{\log_2 n}$ $o \leq g(n) \leq (f(n))$
	= 7=1052h
	$= n^{\frac{1}{2}} \qquad f(n) \Omega g(n)$
C	f(n)0 g(n)
d	f(n) Q g(n)
9	$s(n) \cup j(n)$
5 q	$T(n) = T(\frac{h}{2}) + 5 = T(\frac{h}{2^2}) + 5 + 5$ $2^k = h$
	= T(\frac{1}{2}) + 5 + 5 + 5 \ K = log_2 N
	$= T(\frac{1}{2^{k}}) + 5 + 5 + 5 \qquad k = \log_2 N$ $= T(\frac{1}{2^{k}}) + 5 \times k$
	T(n)=T(n)+ 5logzk = 1+ 5logzk
	- 17 Slog h

6	$T(n)=T(n-1)+\frac{1}{n}$
	$=T(n-2)+\frac{1}{n}+\frac{1}{n-1}$ $N-1=0$
	$= T(n-2) + \frac{1}{n} + \frac{1}{n-1} \qquad N - k = 0$ $= T(n-3) + \frac{1}{n} + \frac{1}{n-1} + \frac{1}{n-2} \qquad k = n$
	= T(n-k) + & -
	T(n)=T(0) - 2
	7 1 3=1 3
	7=10
C	If that use 2 for fomala
	T(=)+5= 1+5logh
	$T(1)+5=1+5\log_2 2$ $1+5=1+5$
	1+5=1+5
	6=6
) 6	

Ta	X=2 N=12
	$\chi=4$ $N=6$
	x=16 N=3 (6x 256 = 4096
	12=25 N=1
	X=65531 N=0
6	This program calculate x' and returns value
C	The standard will See out IT to
d	Acol 24 (6)
	2032 4) 21/11/17