		lecture01	p. 8-10,12,13
I_ /I ogiaal aparatar na	+ \	Address of variable	n 1
!= (Logical operator no		lecture03	p. 4
lecture01	p. 23	Algorithm	n 10
" (Double quote)	n 15	lecture01	p. 12
lecture01	p. 15	Alignment of structures	
#define	n 16 10	lecture03	p. 18
lecture01	p. 16,18	And (logical operator)	~ 00
#include	- 10.00	lecture01	p. 23
lecture01	p. 16,20	Angle brackets vs doub	ne quotes for neader
lecture02	p. 7	files	7
& (bit and)		lecture02	p. 7
lecture01	p. 23	Architecture	- 40
& operator (address)	40	lecture01	p. 10
lecture01	p. 10	argc	
lecture03	p. 4,6,8	lecture02	p. 2
&& (Logical operator a	•	lecture03	p. 14,15
lecture01	p. 23	lecture03	p. 13
' (Single quote)		argv[]	_
lecture01	p. 15	lecture02	p. 2
* operator (dereferenci	<u> </u>	lecture03	p. 13-15
lecture01	p. 10	Array	
lecture03	p. 7	lecture01	p. 10,12-14
- (arrow) reference to s	structure	lecture03	p. 6
lecture03	p. 19,20	lecture05	p. 17-21
. (dot) reference to stru	ıcture	Array in C and in Java	
lecture03	p. 16,20	lecture03	p. 12
.h File		Array of strings	
lecture01	p. 16	lecture03	p. 12,13
\0		Array of structures	
lecture01	p. 14,15	lecture03	p. 16
lecture02	p. 10-12	Array vs pointer	
\n		lecture03	p. 6,8,9,12
lecture02	p. 10	Array – multidimension	al
((Curly brackets)		lecture03	p. 13
lecture01	p. 22	Array: returned by a fur	nction
I (bit or)	·	lecture04	p. 11-13
lecture01	p. 23	Array:Pointer	·
II (Logical operator or)	•	lecture05	p. 2
lecture01	p. 23	Arrow reference to stru	cture field
	F -	lecture03	p. 19,20
A		ASCII	,
A		lecture01	p. 9
		ASCII table	1 -
Address		lecture01	p. 22
			r·

assert		C environment	
lecture02	p. 4	lecture01	p. 7
Assigning address to po	ointer	C program structure	
lecture03	p. 6	lecture01	p. 18
Assignment		C standard library	
lecture01	p. 22,23	lecture02	p. 8
lecture02	p. 2	C vs Java	
atof()		lecture01	p. 6,12-14,17,18
lecture03	p. 1	lecture02	p. 5
atoi()		lecture03	p. 12,20
lecture03	p. 1	lecture04	p. 7,17
atol()		lecture05	p. 1,2,16
lecture03	p. 1	C11	•
		lecture01	p. 7
В		C89	•
D		lecture01	p. 7
		C99	•
Bell Labs		lecture01	p. 7
lecture01	p. 6	Calling functions	•
Bell labs		lecture04	p. 8
lecture01	p. 7	calloc()	•
Binary file		lecture04	p. 18
lecture04	p. 2	case	•
Bit		lecture01	p. 24
lecture01	p. 8	Case	•
Bit operators		lecture02	p. 11
lecture01	p. 23	Case insensitive compa	Irison
Block		lecture02	p. 13
lecture01	p. 22	CFLAGS	
Block of instructions		lecture04	p. 5
lecture01	p. 15	Changing case	
Boolean		lecture02	p. 11
lecture01	p. 10,11,21	char	
Box-Müller		lecture01	p. 10,11
lecture03	p. 3	Character classification	
break		lecture02	p. 10,11
lecture01	p. 24	Character encoding	
Built-in functions		lecture01	p. 15,22
lecture02	p. 5,8	Character Encoding	
Byte		lecture02	p. 17
lecture01	p. 8	Character encoding	
		lecture02	p. 15-18
C		Chinese characters	
		lecture02	p. 14,16,17
		CJK	

lecture02	p. 15	Cygwin	
Classification of charac	ters	lecture01	p. 2
lecture02	p. 10,11		•
Code	•	D	
lecture01	p. 8	D	
codepoint	•		
lecture02	p. 15	Data	
lecture02	p. 15	lecture01	p. 8
Collections	P	lecture05	p. 16,17
lecture05	p. 16	Data structure	
Command-line parame	•	lecture05	p. 17
lecture02	p. 2	Data structures	•
lecture03	p. 13-15	lecture05	p. 16,17,21,22
Comparison of strings	p. 10 10	Data types	•
lecture02	p. 12,13	lecture01	p. 10-12
Comparison operators	p. 12,13	Declaration	•
lecture01	p. 22,23	lecture05	p. 1
lecture02	p. 2	Declaration of pointer	•
Compiler	P. 2	lecture03	p. 5,6
lecture01	p. 16,17,19,20	Declaration of variable	[· - / ·
Compiling a C program	•	lecture01	p. 9
lecture01	p. 17	Deleting a file	r -
Compiling on Linux	p. 17	lecture04	p. 2
lecture01	p. 17	Dereferencing	r
Condition	p. 17	lecture03	p. 7,8,19,20
lecture01	p. 21	Direct access	[· , · , · , ·
Constants	p. 21	lecture04	p. 2
lecture01	p. 16,18	Directory operations	P · -
Course expectations	p. 10,10	lecture04	p. 3
lecture01	p. 2	dirent.h	p. 5
Course notes	ρ. Δ	lecture04	p. 3
lecture01	p. 3	Distribution	p. 5
Course Organization	p. 0	lecture03	p. 3
lecture01	p. 6	do while	p. 0
Course schedule	р. о	lecture02	p. 1
lecture01	p. 1	Dot reference to structu	•
Craftsmanship	p. 1	lecture03	p. 16,20
lecture01	p. 5	double	p: : 0,=0
ctime()	p. 5	lecture01	p. 12
lecture03	p. 2,3,21	Double quote	P
ctype.h	ρ. 2,3,21	lecture01	p. 15
lecture02	n 10	Double quotes vs angle	•
lecture02	p. 10 p. 11	files	
Curly brackets	ρ. 11	lecture02	p. 7
lecture01	n 15 22	Dumping a binary file	۲۰ ′
ieciureo i	p. 15,22	Damping a binary file	

lecture04	p. 3	lecture01	p. 2-4
Dynamic memory	n 16 10	Exception	n 15
lecture04	p. 16-18	lecture02	p. 4,5
lecture05	p. 1,2,17-20	Executable	- 10
Dynamic memory exan	-	lecture01	p. 16
lecture04	p. 19	Expectations	. 0
		lecture01	p. 2
E		Exponent	4.0
		lecture01	p. 12
EDD		Exponential distribution	
EDP	n 16	lecture03	p. 3
lecture05	p. 16	extern	_
Electronic Data Proces	•	lecture04	p. 7
lecture05	p. 16	lecture04	p. 7
else	0.4.00		
lecture01	p. 21,23	F	
else if		•	
lecture01	p. 23		
Encoding		Factorial	
lecture01	p. 9	lecture05	p. 14
lecture02	p. 15	fclose()	
End-of-string marker		lecture03	p. 25
lecture01	p. 14,15	fepf()	
EOF		lecture04	p. 1
lecture02	p. 9,10	ferror()	
Epoch		lecture04	p. 1
lecture03	p. 2	fgetc()	
errno		lecture02	p. 9
lecture03	p. 1	lecture04	p. 1
errno.h		fgets()	
lecture03	p. 1	lecture01	p. 16
Error checking	·	lecture02	p. 10
lecture02	p. 2-4	lecture04	p. 14
lecture03	p. 1	fgets():Return value	•
Error management	•	lecture03	p. 1
lecture02	p. 4,5	FILE	•
Exam	F 7 -	lecture03	p. 26
lecture01	p. 3	FILE *	J
Exam dates	ρ. σ	lecture03	p. 25
lecture01	p. 3	Files	J
Example of pointer usa	•	lecture03	p. 24-26
lecture03	p. 8	Final exam	p o
	eek when you were born	lecture01	p. 3
lecture03	p. 21-23	float	۲. ٥
Exams	μ. <i>Δ</i> 1-20	lecture01	p. 12
LAGIIIS		100141001	۲. ۱۲

flock()		lecture04	p. 8
lecture04	p. 2	Functions, nesting	
Flow control		lecture02	p. 6
lecture01	p. 21,23,24	fwrite()	
lecture02	p. 1	lecture04	p. 1
fopen()			
lecture03	p. 25,26	C	
for	·	G	
lecture02	p. 1		
Formatted input and	output	Garbage collector	
lecture02	p. 10	lecture04	p. 19
fprint()	·	gcc	
lecture03	p. 26	lecture01	p. 17
fprintf()	·	lecture01	p. 7
lecture02	p. 10	gcd()	
fputc()	·	lecture04	p. 8,9
lecture02	p. 9	getchar()	
lecture04	p. 1	lecture02	p. 9
fputs()	·	getopt()	
lecture02	p. 10	lecture03	p. 15
lecture03	p. 26	gets()	
fread()		lecture02	p. 10
lecture04	p. 1	Global variable	
free()		lecture03	p. 1
lecture04	p. 19	lecture04	p. 15
lecture04	p. 18,21-23	gmtime()	
fseek()		lecture03	p. 21
lecture04	p. 2	Grades	
Function call		lecture01	p. 4
lecture04	p. 8-12		
Function declaration		Н	
lecture02	p. 6,7		
Function identification	n		
lecture02	p. 5,6	Hanoi (towers of)	
Function nesting		lecture05	p. 15
lecture01	p. 15	head	_
Function prototype		lecture04	p. 3
lecture01	p. 16	Header file	
lecture02	p. 7	lecture01	p. 16
Function: Pointers as	s argument	lecture02	p. 7
lecture04	p. 13,14	Heap	
lecture05	p. 2,3	lecture01	p. 8
Function: returning a	in array	lecture04	p. 17
lecture04	p. 11-13	Help on functions	
Functions		lecture02	p. 5

History of C lecture01	p. 7	lecture05	p. 16
Hoare, Antony	p. 7		
lecture05	p. 6	J	
Honesty	p. 0		
lecture01	p. 5	Java vs C	
	•	lecture01	p. 6,12-14,17,18
1		lecture02	p. 5
		lecture03	p. 12,20
		lecture04	p. 7
if		java vs C	
lecture01	p. 21,23	lecture04	p. 17
Information		Java vs C	
lecture05	p. 16,17	lecture05	p. 1,2,16
Information Technology	/		
lecture05	p. 16	K	
Initialization of pointer		K	
lecture03	p. 7,8		
Initialization of structure	Э	K&R	
lecture03	p. 16	lecture01	p. 6
Input/Output		Keringhan (Brian)	
lecture02	p. 9,10	lecture01	p. 6
int			
lecture01	p. 11	1	
<pre>lecture01 integer operatio</pre>	•	L	
	•	L	
integer operatio	ns	Lab2 hints	2.5
<pre>integer operatio lecture01 isalnum() lecture02</pre>	ns	lecture05	p. 3-5
<pre>integer operatio lecture01 isalnum() lecture02 isalpha()</pre>	ns p. 11	<i>lecture05</i> Labs	
<pre>integer operatio lecture01 isalnum() lecture02 isalpha() lecture02</pre>	ns p. 11	lecture05 Labs lecture01	p. 3-5 p. 3,4
<pre>integer operatio lecture01 isalnum() lecture02 isalpha() lecture02 isdigit()</pre>	p. 11 p. 11 p. 11	lecture05 Labs lecture01 1d	p. 3,4
<pre>integer operatio lecture01 isalnum() lecture02 isalpha() lecture02 isdigit() lecture02</pre>	ns p. 11 p. 11	lecture05 Labs lecture01 1d lecture01	
<pre>integer operatio lecture01 isalnum() lecture02 isalpha() lecture02 isdigit() lecture02 islower()</pre>	p. 11 p. 11 p. 11 p. 11	lecture05 Labs lecture01 1d lecture01 Library file	p. 3,4 p. 20
<pre>integer operatio lecture01 isalnum() lecture02 isalpha() lecture02 isdigit() lecture02 islower() lecture02</pre>	p. 11 p. 11 p. 11	lecture05 Labs lecture01 1d lecture01 Library file lecture04	p. 3,4
<pre>integer operatio lecture01 isalnum() lecture02 isalpha() lecture02 isdigit() lecture02 islower() lecture02 ISO</pre>	p. 11 p. 11 p. 11 p. 11 p. 11	lecture05 Labs lecture01 1d lecture01 Library file lecture04 Linked list	p. 3,4 p. 20 p. 6
<pre>integer operatio lecture01 isalnum() lecture02 isalpha() lecture02 isdigit() lecture02 islower() lecture02 ISO lecture02</pre>	p. 11 p. 11 p. 11 p. 11	lecture05 Labs lecture01 1d lecture01 Library file lecture04 Linked list lecture05	p. 3,4 p. 20
<pre>integer operatio lecture01 isalnum() lecture02 isalpha() lecture02 isdigit() lecture02 islower() lecture02 ISO lecture02 isprint()</pre>	p. 11 p. 11 p. 11 p. 11 p. 11 p. 16	lecture05 Labs lecture01 1d lecture01 Library file lecture04 Linked list lecture05 Linker	p. 3,4 p. 20 p. 6 p. 22
<pre>integer operatio lecture01 isalnum() lecture02 isalpha() lecture02 isdigit() lecture02 islower() lecture02 ISO lecture02 isprint() lecture02</pre>	p. 11 p. 11 p. 11 p. 11 p. 11	lecture05 Labs lecture01 1d lecture01 Library file lecture04 Linked list lecture05 Linker lecture01	p. 3,4 p. 20 p. 6 p. 22 p. 16,17,19,20
<pre>integer operatio lecture01 isalnum() lecture02 isalpha() lecture02 isdigit() lecture02 islower() lecture02 ISO lecture02 isprint() lecture02 ispunct()</pre>	p. 11	lecture05 Labs lecture01 1d lecture01 Library file lecture04 Linked list lecture05 Linker lecture01 lecture01	p. 3,4 p. 20 p. 6 p. 22
<pre>integer operatio lecture01 isalnum() lecture02 isalpha() lecture02 isdigit() lecture02 islower() lecture02 iSO lecture02 isprint() lecture02 ispunct() lecture02</pre>	p. 11 p. 11 p. 11 p. 11 p. 11 p. 16	lecture05 Labs lecture01 1d lecture01 Library file lecture04 Linked list lecture05 Linker lecture01 lecture04 Linux	p. 3,4 p. 20 p. 6 p. 22 p. 16,17,19,20 p. 7-9
<pre>integer operatio lecture01 isalnum() lecture02 isalpha() lecture02 isdigit() lecture02 islower() lecture02 isO lecture02 isprint() lecture02 ispunct() lecture02 ispunct()</pre>	p. 11 p. 11 p. 11 p. 11 p. 11 p. 11 p. 16 p. 11 p. 11	lecture05 Labs lecture01 1d lecture01 Library file lecture04 Linked list lecture05 Linker lecture01 lecture04 Linux lecture01	p. 3,4 p. 20 p. 6 p. 22 p. 16,17,19,20
<pre>integer operatio lecture01 isalnum() lecture02 isalpha() lecture02 isdigit() lecture02 islower() lecture02 isprint() lecture02 isprint() lecture02 ispunct() lecture02 isspace() lecture02</pre>	p. 11	lecture05 Labs lecture01 1d lecture01 Library file lecture04 Linked list lecture05 Linker lecture01 lecture04 Linux lecture01 localtime()	p. 3,4 p. 20 p. 6 p. 22 p. 16,17,19,20 p. 7-9 p. 2
<pre>integer operatio lecture01 isalnum() lecture02 isalpha() lecture02 isdigit() lecture02 islower() lecture02 isprint() lecture02 isprint() lecture02 ispunct() lecture02 ispunct() lecture02 ispunct() lecture02 ispunct()</pre>	p. 11 p. 11 p. 11 p. 11 p. 11 p. 16 p. 11 p. 11 p. 11	lecture05 Labs lecture01 1d lecture01 Library file lecture04 Linked list lecture05 Linker lecture01 lecture04 Linux lecture01 localtime() lecture03	p. 3,4 p. 20 p. 6 p. 22 p. 16,17,19,20 p. 7-9
<pre>integer operatio lecture01 isalnum() lecture02 isalpha() lecture02 isdigit() lecture02 islower() lecture02 isprint() lecture02 isprint() lecture02 ispunct() lecture02 isspace() lecture02</pre>	p. 11 p. 11 p. 11 p. 11 p. 11 p. 11 p. 16 p. 11 p. 11	lecture05 Labs lecture01 1d lecture01 Library file lecture04 Linked list lecture05 Linker lecture01 lecture04 Linux lecture01 localtime()	p. 3,4 p. 20 p. 6 p. 22 p. 16,17,19,20 p. 7-9 p. 2

Logical operators		mktime()	
lecture01	p. 23	lecture03	p. 21
long	p. 20	Multi-threading	p. 2 i
lecture01	p. 11	lecture04	p. 15,16
lecture01	p. 11	Multidimensional array	p. 10,10
Loop	p	lecture03	p. 13
lecture02	p. 1	100101000	p. 10
1001011002	F. .	NI	
R //		N	
M			
		Name of variable	
main()		lecture01	p. 9
lecture01	p. 16	Naming a structure	•
make	·	lecture03	p. 16,17
lecture01	p. 7	Nesting functions	• •
lecture04	p. 5,6	lecture02	p. 6
lecture04	p. 4-6	Node	·
Makefile		lecture05	p. 21,22
lecture04	p. 5,6	Normal distribution	•
malloc()		lecture03	p. 3
lecture04	p. 18-20	Not (logical operator)	
lecture05	p. 20	lecture01	p. 23
man		NULL	
lecture02	p. 5	lecture02	p. 10,13
Marker (end-of-string)		lecture03	p. 1,7
lecture01	p. 14,15		
Mathematical functions		0	
lecture01	p. 19,20	U	
Mathematical functions	:Compiler	-	
lecture01	p. 19	od	
Mathematical Induction		lecture04	p. 3
lecture05	p. 10	Or (logical operator)	
Mathematical induction		lecture01	p. 23
lecture05	p. 8-10	Order	
Maurolico, Francisco		lecture05	p. 20,21
lecture05	p. 9	Overflow	
memory		lecture02	p. 12
lecture01	p. 8	Overloading	
lecture01	p. 8	lecture02	p. 5
Memory address			
lecture01	p. 9,10	P	
Memory leak		•	
lecture04	p. 22	Donal Plains	
Midcourse exam		Pascal, Blaise	n ()
lecture01	p. 3	lecture05	p. 9

perror()			
lecture03	p. 1	R	
Pipe		n	
lecture02	p. 9		
Pivot		Radix	
lecture05	p. 6-8	lecture01	p. 12
Pointer		random()	
lecture01	p. 10	lecture03	p. 2,3
lecture03	p. 4-8,19,20	Reading ZIP or XML	
lecture05	p. 1,2	lecture04	p. 3
Pointer arithmetic		realloc()	
lecture03	p. 10,11	lecture04	p. 18
Pointer on structure		lecture05	p. 19,20
lecture03	p. 19,20	Recursion	
Pointer to a file		lecture05	p. 10-15
lecture03	p. 25	Recursion vs loops	
Pointer vs array	•	lecture05	p. 14
lecture03	p. 6,8,9,12	Reference	
Pointers	• • • • • • • • • • • • • • • • • • • •	lecture03	p. 7
lecture04	p. 11,12	Reference to structure	filed
Pointers as arguments	•	lecture03	p. 16
lecture04	p. 13,14	Return value	
lecture05	p. 2,3	lecture02	p. 3,4,8
pptx	,	Return value from main	1()
lecture04	p. 3	lecture01	p. 16
Preprocessor	•	Ritchie (Dennis)	
lecture01	p. 16-18,20	lecture01	p. 6,7
<pre>printf()</pre>	•	Ritchie, Dennis	
lecture02	p. 8,10	lecture01	p. 6
Prototype (function)	•	Robustness	
lecture01	p. 16	lecture01	p. 5
Prototype (functions)	•	Rounding error	
lecture02	p. 7	lecture01	p. 12
<pre>putchar()</pre>	•		
lecture02	p. 9	S	
puts()	•	3	
lecture02	p. 10		
	•	scanf()	
		lecture01	p. 16
Q		lecture02	p. 3,4,10
		lecture04	p. 14
Quality		Schedule	
lecture01	p. 5	lecture01	p. 1
Quick-sort		Semi-colon	
lecture05	p. 6-8,11-14	lecture01	p. 15

setlocale		lecture02	p. 12
lecture02	p. 15	strchr()	•
setlocale()	·	lecture02	p. 13
lecture03	p. 3	strcmp()	•
Shared library	•	lecture02	p. 12,13
lecture04	p. 7	strcpy()	, -
short	-	lecture02	p. 12
lecture01	p. 11	strdup()	r
signed	P	lecture04	p. 18
lecture01	p. 11,12	lecture05	p. 18
Single quote	. , . <u> </u>	Stream	P
lecture01	p. 15	lecture02	p. 9
sizeof()	p. 10	Stream redirection	p. 0
lecture03	p. 6,13	lecture03	p. 24
Sorting	p. 0, . 0	strerror()	p. = .
lecture05	p. 6-8,11-14,19	lecture03	p. 1
sscanf()	ρ. σ σ, τ τ τ, τσ	String	ρ
lecture01	p. 16	lecture01	p. 10,14,15
Stack	p. 10	String array	p. 10,11,10
lecture01	p. 8	lecture03	p. 12,13
lecture04	p. 9-12	String comparison	p,.o
static	p. 0	lecture02	p. 12,13
lecture04	p. 7,16	String conversion to nu	•
Static variable	p ,	lecture03	p. 1
lecture04	p. 16	String declaration	μ
stderr	p	lecture03	p. 11
lecture02	p. 9	String search	ρ
lecture02	p. 9	lecture02	p. 13
lecture03	p. 1	string.h	p
stdin		lecture02	p. 11-13
lecture02	p. 9	lecture04	p. 18
lecture02	p. 9,10	Strings	P
lecture03	p. 24,25	lecture02	p. 11-13
stdio.h	•	lecture03	p. 1
lecture03	p. 25	strlen()	
stdlib.h	•	lecture02	p. 11
lecture03	p. 1	strncasecmp()	P · · · ·
lecture04	p. 18	lecture02	p. 13
stdout	•	strncat()	•
lecture02	p. 9,10	lecture02	p. 12
lecture02	p. 9,10	<pre>strncmp()</pre>	•
lecture03	p. 24,25	lecture02	p. 12,13
strcasecmp()		strncpy()	•
lecture02	p. 13	lecture02	p. 12
strcat()		strrchr()	

lecture02	p. 13	lecture03	p. 2,21
strsep()	ρ. 10	timegm()	p. 2,21
lecture02	p. 14	lecture03	p. 21
strstr()	ρ	time_t	p. = .
lecture02	p. 13	lecture03	p. 21
strtod()	ρσ	lecture03	p. 2
lecture03	p. 1	Tokenizing	P -
strtok()	P	lecture02	p. 13,14
lecture02	p. 13,14	tolower()	p. 10,11
strtol()	p ,	lecture02	p. 11
lecture03	p. 1	toupper()	P
Struct	r	lecture02	p. 11
lecture03	p. 20	Towers of Hanoi	r
struct	r	lecture05	p. 15
lecture03	p. 15,17,20,23	typedef	
lecture03	p. 16-20	lecture03	p. 17
lecture05	p. 17		I ⁻
struct tm	•	11	
lecture03	p. 21	U	
Structure alignment	·		
lecture03	p. 18	Unicode	
Structure and pointer	•	lecture02	p. 15,17,18
lecture03	p. 19,20	union	
Structure initialization	•	lecture03	p. 23
lecture03	p. 16	lecture03	p. 24
Structure naming	·	UNIX	
lecture03	p. 16,17	lecture01	p. 6
Structures	•	Unix	
lecture03	p. 15-20	lecture01	p. 7
switch	·	Unix pipe	
lecture01	p. 24	lecture02	p. 9
		unlink()	
T		lecture04	p. 2
		unsigned	
		lecture01	p. 11,12
Thomson (Ken)		UTF-16	
lecture01	p. 7	lecture02	p. 17
Thomson, Ken		UTF-32	
lecture01	p. 6	lecture02	p. 17
Time functions		UTF-8	
lecture03	p. 2,20,21	lecture02	p. 15,18
time()			
lecture03	p. 2,21	V	
time.h		•	
lecture03	p. 21		

Variable declaration lecture01 p. 9 Variable name p. 9 lecture01 Variable number of parameters lecture02 p. 6 Visual Studio lecture01 p. 7 void lecture04 p. 13 void* lecture04 p. 18 Von Neumann (John) lecture01 p. 8 Von Neumann, John lecture04 p. 9 W wchar lecture02 p. 14,15 while lecture02 p. 1 Wide char lecture02 p. 14,15 X Xcode lecture01 p. 7 **XML** lecture04 p. 3 Z ZIP lecture04 p. 3