

CSE 351 Final-Exam Reference Sheet

Binary	Decimal	Hex
0000	0	0
0001	1	1
0010	2	2
0011	3	3
0100	4	4
0101	5	5
0110	6	6
0111	7	7
1000	8	8
1001	9	9
1010	10	A
1011	11	B
1100	12	C
1101	13	D
1110	14	E
1111	15	F

Sizes

C type	Size (x86-64)
char	1
short	2
int	4
long	8

Bit Operators

Operator	Meaning
x&y	bitwise-and
x y	bitwise-or
x^y	bitwise-xor
~x	bitwise-negation

2 ⁰	2 ¹	2 ²	2 ³	2 ⁴	2 ⁵	2 ⁶	2 ⁷	2 ⁸	2 ⁹	2 ¹⁰
1	2	4	8	16	32	64	128	256	512	1024

SI Size	Prefix	Symbol	IEC Size	Prefix	Symbol
10 ³	Kilo-	K	2 ¹⁰	Kibi-	Ki
10 ⁶	Mega-	M	2 ²⁰	Mebi-	Mi
10 ⁹	Giga-	G	2 ³⁰	Gibi-	Gi
10 ¹²	Tera-	T	2 ⁴⁰	Tebi-	Ti
10 ¹⁵	Peta-	P	2 ⁵⁰	Pebi-	Pi
10 ¹⁸	Exa-	E	2 ⁶⁰	Exbi-	Ei
10 ²¹	Zetta-	Z	2 ⁷⁰	Zebi-	Zi
10 ²⁴	Yotta-	Y	2 ⁸⁰	Yobi-	Yi

C Functions

void* malloc(**size_t** size):

Allocate size bytes from the heap.

void* calloc(**size_t** n, **size_t** size):

Allocate n*size bytes and initialize to 0.

void free(**void*** ptr):

Free the memory space pointed to by ptr.

size_t sizeof(**type**):

Returns the size of a given type (in bytes).

char* gets(**char*** s):

Reads a line from stdin into the buffer.

pid_t fork():

Create a new child process (duplicates parent).

pid_t wait(**int*** status):

Blocks calling process until any child process exits.

int execv(**char*** path, **char*** argv[]):

Replace current process image with new image.

Virtual Memory Acronyms

MMU	Memory Management Unit	VPO	Virtual Page Offset	TLBT	TLB Tag
VA	Virtual Address	PPO	Physical Page Offset	TLBI	TLB Index
PA	Physical Address	PT	Page Table	CT	Cache Tag
VPN	Virtual Page Number	PTE	Page Table Entry	CI	Cache Index
PPN	Physical Page Number	PTBR	Page Table Base Register	CO	Cache Offset