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🔀 Endian	or Endian-A	Architecture		
how	multi-byte dat	a is represented	by a computer s	vstem and is
dicta	ated by the CPL	Larchitecture of	the system	Jotom and to
	all computer sy	jstems are desigr	hed with the sam	ie endian
arch	itecture			
🔼 İssu	es with softwar	re and interface		
Computer System	n Endianness		Common file formats	
Platform	Endian Architecture	Little-Endian Format	Big-Endian Format	Variable or Bi-Endian Format
ARM*	Bi-Endian	BMP (Windows* & OS/2)	PSD (Adobe Photoshop*)	DXF (AutoCAD*)
DEC Alpha*	Little-Endian	GIF	IMG (GEM Raster*)	PS (Postscript*, 8 bit
HP PA-RISC 8000*	Bi-Endian	FLI (Autodesk Animator*)	JPEG, JPG	interpreted text, no Endian issue)
IBM PowerPC*	Bi-Endian	PCX (PC Paintbrush*)	MacPaint	POV (Persistence of
Intel® 80x86	Little-Endian	QTM (MAC Quicktime*)	SGI (Silicon Graphics*)	Visionraytracer*)
Intel® IXP network	Bi-Endian	RTF (Rich Text Format)	Sun Raster	RIFF (WAV & AVI')
Intol® Itanium®	Bi Endian		WPG (WordPerfect*)	XWD (X Window Dump*)
processor family	DI-Chulan	Bus Protocols	Network Protocols	Bus Protocols
Java Virtual Machine*	Big-Endian	Infiniband	TCP/IP	GMII (8 bit wide bus, no
MIPS*	Bi-Endian	PCI Express	UDP	Endian issue)
Motorola 68k*	Big-Endian	PCI-32/PCI-64		
Sun SPARC*	Big-Endian	USB		

Endian-Neutral
₭ Conversion
Byte Swap
Network I/O Macro
* "Endian Neutral": allowing the code to be ported easily between processors of different Endian-architectures, and without rewriting any code. Endian-neutral software is developed by identifying system memory and external data interfaces, and using Endian- neutral coding practices to implement the interfaces [Intel]
₩ HOMEWORK #1
Technical Report on Endian-Neutral Software
[™] What? Why? How?
2-3 pages; 1" margin all sides; 10 pt; Times New Roman; No cover page (Title and your name); single space; single column
Submission: Hardcopy only by 5:10pm Tuesday Sept 27.
Remember: Importance of the first paragraph
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^R 9 Operation Categories		ADDITION	
Data Transfer	ADD	Add operands	
	ADC	Add with carry	
Anthmetic	INC	Increment operand by 1	
Shift/Rotate		ASCII adjust for addition	
String Manipulation	DAA		
	SUB	Subtract operands	
	SBB	Subtract with borrow	
🗠 Control Transfer	DEC	Decrement operand by 1	
Aligh Level Language	NEG	Negate operand	
Support	CMP	Compare operands	
	DAS	Decimal adjust for subtraction	
Operating System	AAS	ASCII Adjust for subtraction	
Support	MULTIPLICATION		
Processor Control	MUL	Multiply Double/Single Precision	
	IMUL	Integer multiply	
K Number of operands:	AAM	ASCII adjust after multiply	
0. 1. 2. or 3	DIVISION		
0, 1, 2, 0, 0	DIV	Divide unsigned	
	IDIV	Integer Divide	
	AAD	ASCII adjust before division	