1010 0110 in 2’s complement equals in base 10 → **-90**

A microprocessor with a 32-bit address bus could access how much memory→ **4GB**

A6 in 2’s complement equals in base 10 → **-90**

A “POP” instruction: → **Increments the SP**

A “PUSH” instruction → **decrements the SP**

A “NOP” instruction in a program will → **Perform a No Operation**

AND’ing 1FH and 02H will result in which of the following → **02**

AND’ing 10H and 2FH will result in which of the following → **0**

A “**pull down**” resistor is used in digital circuits to do what? → **To keep the signal line “tied” low until the line is active (goes high)**

A “**pull up**” resistor is used in digital circuits to do what → **To keep singal “tied” high until the line is active (goes low)**

Determine the contents of register BL after the following instructions have been executed:→ **E2H** MOV BL, E2H MOV CL, 1000b ROL BL, CL **; rotate BL by 8 to left = same value**

For the instruction sequence below, determine the contents of the registers AL after this program → **51H** MOV AL, 73h ; 0111 0011 ADD AL, 78h ; 0111 1000 DAA if#low#nibble#of#AL#>#9#or#AF#=#1#then:# AL#=#**AL#+#6**# AF#=#1# if#AL#>#9Fh#or#CF#=#1#then:# AL#=#**AL#+#60h**# CF#=#1#

For the instruction sequence below, determine the contents of the register AL after this program is executed → **51H**

MOV AL, 83h ADD, AL, 68h DAA

Given the short code, what is the value in AX after the program is run → **0100**

Mov BX, 0100 PUSH BX MOV AX, 0500 POP AX

Given the short code, what is the value in AX after the program is run →**0001**

MOV BX, 0001 PUSH BX MOV AX, 0500 POP AX

GIVEN: IP = 0106 Flags: NV UP EI NG NZ NA PE NC Instruction: JMP 011F What will the IP value be after “t” command is executed in DOS Debug? → **011FH** (Unconditional Jump)

GIVEN: IP = 0109 Flags: OV UP EI PL NZ NA PO CY Instruction: JGE 0118 What will the IP value be after a “t” command is executed in DOS Debug → **010B** (0109 + 0010 add two bytes)

GIVEN: IP=FFE0 Flags: OV UP EI PL NZ NA PO NC Instruction: JGE 0116: ID72:010D 7D**09** How many bytes will the processor jump if the condition for a jump were met? → **9**

GIVEN: AX= FFF0 IP = 0109 FALGS: OV UP EI PL NZ NA PO CY ID72: 010F **7D18** Instruction: JGE 0118. What is the signed decimal value of the number in the AX register? → **-16** Covert the number 7D18 into decimal.

GIVEN: IP= 010F Flags: NV UP EI NG NZ NA PO NC Instruction: JNL 0115. How many bytes in decimal will the processor jump if the conditions for a jump were met → **24**

GIVEN: 57 65 6C 63 6F 6D 65 20-74 6F 20 41 73 73 65 6D

62 6C 79 20 4C 61 6E 67-75 61 67 65 00 00 00 00 An ASCII message begins at memory location 0200, what is the message? → **Welcome to Assembly Language**

Here is a short sequence of code: 7413 EBA3 CD16 7D21 3C04 EBF0 EB15. All of the instructions are a word long. The third instruction operator is → **INT**

Here is a short sequence of code: 7413 A3EB CD16 7D21 3C04 EBF0 EB15. All of the instructions are a word long. The fourth instruction operator is →**JGE**

Here is a short sequence of code: B400 CD16 3C4A 7404 BC6A 7513. All of the instructions are two bytes long. The sixth instruction operator is →**JNZ**

How many cores does the propeller microcontroller have → **8**

How many bits(s) is/are required to represent a range of decimal numbers from **0** to **15** → **4**

How many bits(s) is/are required to represent a range of decimal numbers from **0** to **63** → **6**

How many bits(s) is/are required to represent a range of decimal numbers from **0** to **127** →**7**

How many bits(s) is/are required to represent a range of decimal numbers from **0** to **255** →**8**

How many bytes are there in this short sequence of code B4 00 CD 16 4C CD 20 → **7**

How many nibbles are there in this short sequence of code B4 00 CD 16 3C 4A 74 04 3C 6A 75 13 →**24**

How many bytes are in double precision IEEE floating point format numbers → **8**

How many nibbles are in double precision IEEE floating point format numbers → **16**

How many address lines would be required to address 128 MB directly → **27** (128 x 1048576 = 134217728 and 2^27 = 134217728)

How many address lines would be required to address 64 MB directly → **26** (64 x 1048576 = 67108864 and 2^26 = 67108864)

If CX is 0000, what will CX be after a “LOOP” instruction → **FFFF**

If CX is 0003, what will CX be after a “LOOPNZ” instruction →**0002**

If the SP is **F00F**, what is the SP value after a “**PUSH CX**” instruction → **F00D**

If the SP is **F00F**, what is the SP value after a “**POP CX**” instruction → **F011**

If the SP is **F00F**, what is the SP value after a “**POP SP**” instruction → **F011**

In adding 5+5 through a 4 bit integer unit. The state of the OF and CF flags after the add instruction would be → **OF = 1, CF = 0**

In x86 architecture, BIU stands for which of the following → **Bus Interface Unit**

In x86 architecture, ALU stands for which of the following → **Arithmetic Logic Unit**

In the x86 lab part 3 Hello MASM program in the original code, what is the address of the byte used to start the number in the sequence “Hello World 0”? → **020E**

In MASM, with a “MOV CX, **24h**” instruction, and a “LOOP” instruction, how many times will the program loop in decimal → **36**

In MASM, with a “MOV CX, **24**” instruction, and a “LOOP” instruction, how many times will the program loop in decimal → **24**

In MASM, with a “MOV CX, 12h” instruction, and a “LOOP” instruction, how many times will the program loop in decimal → **18**

In the Hello MASM lab in the original code, what is the address of the string to start the message “Hello World 0” → **0200**

In the PIC18 with TRISD = 0b10000000, what is the configuration of the Port D → **Bit 7 of port D is set to input**

In the PIC18 with TRISD = 0b01111111 and LATD = 0xAA, what value will be on Port D and shown on the LEDS → **Bit 7 of port D is set to output** (because the first bit is zero = output)

In the PIC18 with TRISD = 0b00001111, what is the configuration of the Port D → **A0 (First 4 are outputs and last four are inputs)**

In the PIC18 with TRISD = 0b11110000 and LATD = 0xAA, what value will be on Port D and shown on the LEDS → **0A**

In the Propeller microcontroller, the command “dira[9..4] := %000000” would cause the processor to do which of the following → **Sets the propeller pin P4 through P9 as output pins**

In the Propeller microcontroller, the command “dira[9..4] := %111111” would cause the processor to do which of the following → **Sets the propeller pin P4 through P9 as output pins**

In the propeller microcontroller, the command “waitcnt(clkfreq\*3 + cnt)” would cause the processor to do which of the following → **A 3 second delay**

In the propeller microcontroller, the command “waitcnt(clkfreq\*2 + cnt)” would cause the processor to do which of the following → **A 2 second delay**

In the Propeller microcontroller, the term “Method” is (are) which of the following → **A block of executable commands that has variables, can receive parameters, and returns a value.**

Int 10h uses what function code to write a character to the screen and advance the cursor by one character position → **0Eh**

Int 21h, Function 09h requires three things set up before calling in order to correctly print a string: **DS=SEG Hello\_msg, DX=OFFSET Hello\_msg, Hello\_msg terminated with 24h**.

Ladder Logic is used in? → **PLCs**

**Moore’s law** has accurately predicted the growth rate in the number of transistors per die for the last 40 years. What is the rate? → **Doubling every 18-24 months**

On the Ardino platform what is the program language used → **C**

On the **PPE board**, what numbers(s) on the key pad is(are) pressed for an output port value of 08h and an input port value of 2Fh → **0**

On the **PPE board**, what numbers(s) on the key pad is(are) pressed for an output port value of 04h and an input port value of 2Fh → **8**

The “LOOPNZ” instruction is equivalent to which of the following instructions → **DEC#CX,#JNE#**

The acronym PWM used for motor control, is defined as which of the following → **Pulse Width Modulation**

The acronym PLC, is defined as which of the following? → **Programmable Logic Controller**

The ASCII codes for space, space, carriage return, line feed, end of string in **decimal** are → **32, 32, 13,10, 36**

The ASCII codes for space, space, carriage return, line feed, end of string in **hexadecimal** are:→ **20,20,0D,0A,24**

The binary number, 1011 0101, represents what values as a unsigned binary, 8 bit signed binary, odd parity ASCII, and BCD number (in that order) → **181, -76, 5, invlaid5**

The instruction MOV CX, DADD is what addressing mode → **Immediate**

The instruction MOV CX, [DADD] is what addressing mode → **Direct**

The number of bits in single precision IEEE floating pint format are → **32**

This section of memory represents a stack. What type of program is this → **EXE PROGRAM**

**BEEF:00D0** 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00 **BEEF:00E0** 00 01 02 03 04 05 06 07-08 09 0A 0B 0C 0D 0E 0F **BEEF:00F0** 11 22 33 44 55 66 77 88-99 AA BB CC DD EE FF

**BEEF:0FD0** 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00 **BEEF:0FE0** 00 01 02 03 04 05 06 07-08 09 0A 0B 0C 0D 0E 0F **BEEF:0FF0** 11 22 33 44 55 66 77 88-99 AA BB CC DD EE FF

This section of memory represents a stack. What type of program is this → **COM PROGRAM**

**BEEF:FFD0** 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00 **BEEF:FFE0** 00 01 02 03 04 05 06 07-08 09 0A 0B 0C 0D 0E 0F **BEEF:FFF0** 11 22 33 44 55 66 77 88-99 AA BB CC DD EE FF

Using MASM, which of the following will cause a program with a LOOP instruction to loop 48 times in decimal → **MOV CX, 48**

Which command would you use to execute another core in the propeller microcontroller→ **Cognew**

What command in DEBUG would be used to change the code segment → **RCS**

What command in DEBUG would be used to change the IP value → **RIP**

What command in DEBUG would be used to execute interrupts → **P**

What command in MASM-CodeView would be used to step through a program line by line → **T(F8)**

What flag(s) does the “LOOPNZ” instruction look at to determine whether to loop or not → **ZF**

What flag(s) does the “LOOPNE” instruction look at to determine whether to loop or not → **ZF**

What Hex values must be sent to address the key pad rows on the PPE board → **1,2,4,8**

What is the advantage of C Language over Assembly Language → **C is transportable to other microprocessor architectures**

What is the hexadecimal encoding for “JGE” for a jump back 10 bytes → **7DF4 (10 byes + 2 )**

What is the hexadecimal encoding for adding AX with BX and storing the result in AX → **01D8** ADD AX, BX 000 00W 11 reg1 reg2

What is the hexadecimal encoding for adding BX with CX and storing the result in BX → **01CB**

What is the hexadecimal encoding for adding BX with DX and storing the result in BX → **01D3**

What is -130 decimal in 2’s complement (8bits) → **01111110**

What is -32.75 in a base two number system → **-100000.110000**

What is 14.4375 in binary → **001110.0110**

What is 16.4375 in binary → **010000.01110**

What is the binary value of decimal 12.875 → **1100.1110**

What is 16.4375 in binary → **010000.01110**

What is number, 1011.0101 (2) in decimal? → **11.31**

What is the **numeric sequence** of the key pad columns on the PPE board → **37,2F,1F**

What is the decimal value of C5 5A 57 00 in IEEE single precision FP format → **-3493.4375**

What of the following instruction would be used to set the LED to light on the Arudino platform → **digitalWrite(ledPin, HIGH);**

What type of program is this → **EXE**

IP = **0115**, 1376:0115 0100 ADD [BX+SI], AL DS:0000=CD

What type of program is this → **COM**

IP = 0100, 1376:0100 0100 ADD [BX+SI], AL DS:0000=CD

Which of the following DOS Debug instructions would set a break point at memory location 010C → **G = 100 10C**

Which of the following would be used to set the **TRISA** register to control the direction of **PIC18** port to **input** → **1** and for **output** its → **0**

Which of the following DOS Debug instructions would be used to change the IP register to 110 →**RAX = 0110**

Which of the following will cause a program with a LOOP instruction to loop 48 times (decimal)→ **CX=30h**

Which of the following is a valid x86 command for multiplying a number → **MUL BX**

Which of the following is **not a valid** command for a number into a register in MASM → **MOV#AX,#BADH#**

With a POP BX instruction, what will be order off the accumulator, base, count, and data registers restored from the stack → **BX**

With a POPA instruction, what will be the order of the accumulator, base, count, and data registers restored from the stack → **BDCA**

You are trying to rebuild a HELLO program project in MASM and you get the following error: "ERROR 4 line 1". What is the cause of the error? → **Not known—this error by itself isn’t a problem, press the enter key to clear the error.**

You are typing to rebuild a HELLO project program in MASM and you get the following error: “LINK : warring L4021: no stack segment”. What would be the reason for the such an error → **No project template for COM was selected.**

You are typing to rebuild a HELLO project program in MASM and you get the following error: “LINK : fatal error L1089: HELLO.lrf: cannot open response file”. What would be the reason for the such an error → **No source file is identified(no .asm file)**

**PPE Row Column Scan decoding**# ####D7 D6 D5 D4 D3 D2 D1 D0 S7 S6 S5 S4 S3 S2 ^ ^ ^ 3 2 1 0 0 0 0 1 0 0 0 = 08h 0 0 0 1 0 0 0 0 = 10h 0 0 1 0 0 0 0 0 = 20h

0 0 1 1 1 1 1 1 = 3Fh -> Nothing pressed 0 0 1 1 0 1 1 1 = 37h -> Number 1 pressed 0 0 1 0 1 1 1 1 = 2Fh -> Number 2 pressed 0 0 0 1 1 1 1 1 = 1Fh -> Number 3 pressed

#

1.#Given## AX=FFF0#BX=3534#CX=0000#DX=0180#SP=FFEE#BP=0000#SI=0000#DI=0000# DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=0109#OV#UP#EI#PL#NZ#NA#PO#CY# 1D72:0109#7D06#JNL#0118# #What#is#the#signed#decimal#value#of#the#number#in#the#AX#register?# V16# #3.#What#is#16.4375#base#10#in#binary?# 010000.01110# #4.#Here#is#a#short#sequence#o#code:#7413A3EBCD167D213C04EBF0EB15.#All#of#the# instructions#are#a#word#long.#The#forth#instruction#operator#is:# #JGE# #7.#The#“LOOPNZ”#instruction#is#equivalent#to#which#of#the#following#instructions?# DEC#CX,#JNE# #8.#Given#AX=FFE0#BX=3534#CX=0000#DX=0180#SP=FFEE#BP=0000#SI=0000# DI=0000#DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=010D#OV#UP#EI#PL#NZ#NA#PO#NC# #How#many#bytes#will#the#processor#jump#if#the#conditions#for#a#jump#were#met?# 9# #9.#Given:#AX=0353#BX=0534#CX=0000#DX=0180#SP=FFEE#BP=0000#SI=0000# DI=0000#DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=0109#OV#UP#EI#PL#NZ#NA#PO#CY# #What#will#the#IP#value#be#after#a#“t”#command#is#executed#in#DOS#Debug?# 010B# #13.#Given:#AX=2247#BX=0000#CX=0000#DX=0000#SP=FFEE#BP=0000#SI=0000# DI=0000#DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=0106#NV#UP#EI#NG#NZ#NA#PE#NC# 1D72:0106#EBOF#JMP#0118# #What#will#the#ip#value#be#after#a#“t”#command#is#executed#in#DOS#Debug?## 0118h# ##15.#What#is#the#hexadecimal#encoding#for#adding#BX#with#CX#and#storing#thee#result# in#BX?## 01CB# ##19.#If#CX#is#0002#what#will#CX#be#after#a#“LOOP”#instruction?# 0001# #20.#In#x86#architecture,#ALU#stands#for#which#of#the#following?#

Arithmetic#Logic#Unit## #23.#What#is#the#hexadecimal#encoding#for#“JGE”#for#a#jump#back#12#bytes?# 7DF2# #24.#Moore’s#law#has#accurately#predicted#the#growth#rate#in#the#number#of# transistors#per#die#for#the#last#40#years.#What#is#that#rate?# Doubling#every#18V24#months## #25.#AND’ing#10H#and#2FH#will#result#in#which#of#the#following?## 0# #32.#What#command#in#DEBUG#would#be#used#to#execute#interrupts?# P# #The#number#of#nibbles#in#a#double#word#are:## 8# #F2011# #1.#Given:## 0B0E:0200#57#65#6C#63#6F#6D#65#20V74#6F#20#74#68#65#20#66# 0B0E:0210#69#72#73#74#20#64#61#79V20#6F#66#20#74#68#65#20# 0B0E:0220#72#65#73#74#20#6F#66#20V79#6F#75#72#20#6C#69#66# 0B0E:0230#65#00#00#00#00#00#00#00V00#00#00#00#00#00#00#00# #An#ASCII#message#begins#at#memory#location#0200,#what#is#the#message?# Welcome#to#the#first#day#of#the#rest#of#your#life# #2.#The#instruction#MOV#DX,#BADD#is#what#addressing#mode?# Immediate# #3.#Which#of#the#following#is#the#hexadecimal#encoding#for#adding#BX#with#CX#and# storing#the#result#in#CX?# 03CB# #4.#What#is#the#advantage#of#Assembly#Language#over#C#language?# The#assembler#creates#much#faster#execuable#code# #5.#What#is#18.4375#base#10#in#binary?## 010010.01110# ####

6.#For#the#instruction#sequence#below,#determine#the#contents#of#the#register#of#the# register#AL#after#this#program#is#executed:##

# 51H# #7.#In#x86#architecture,#ALU#stands#for#which#of#the#following?# Arithmetic#Logic#Unit# #8.#A#microprocessor#with#a#33Vbit#address#bus#could#access#how#much#memory?# 8#GB# #9.#What#is#the#hexadecimal#encoding#for#“JGE”#for#a#jump#back#12#bytes?# 7DF2# #10.#Given:# AX=FFE0#BX=3534#CX=0000#DX=0180#SP=FFEE#BP=0000#SI=0000#DI=0000# DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=010F#NV#UP#EI#NG#NZ#NA#PO#NC# 1D72:010F#7d18#JGE#0128# #How#many#bytes#in#decimal#will#the#processor#ump#if#the#conditions#for#a#jump#are# met?# 24# #11.#Moore’s#law#has#accurately#predicted#the#growth#rate#in#the#number#of# transistors#per#fie#for#the#last#40#years.#What#is#that#rate?# Doubling#every#18V24#months## #12.#The#number#of#bytes#in#a#word#are## 2# #13.#Determine#the#contents#of#register#BL#after#the#following#instructions#have#been# executed## #Program#Listing# MOV#BL,#E2H# MOV#CL,#0100b# ROL#BL,#CL# #2EH# #

14.#How#many#bit(s)#is/are#required#to#represent#a#range#of#dcimal#numbers#from#0# to#127?# 7# #15.#What#high#level#language#is#the#propeller#programmed#in?# Spin# #16.#In#the#propeller#microcontroller,#the#command#“dira[4..9]#:=#%000000”#would# cause#the#processor#to#do#which#of#the#following?# Sets#the#propeller#pins#P4#through#P9#as#input#pins# #17.#Which#command#would#you#use#to#execute#another#core#in#the#propeller# microcontroller?# Cognew# #18.#How#many#cores#does#the#propeller#microcontroller#have?# 8# #19.#In#the#propeller#microcontroller,#the#command#“waitcnt(clkfreq^10#+#cnt)”# would#cause#the#processor#to#do#which#of#the#following?# Create#10#second#delay# #20.#The#Acronym#ADC#in#microcontrollers#stands#for#which#of#the#following?# Analog#to#Digital#Converter# #21.#The#acronym#PWM#used#in#the#parallax#propeller#and#microchip#pic18,#is# defined#as:## Pulse#width#modulation# #22.#How#many#bits#does#the#PIC18#microcontrolleer#used#in#the#pickit#3#debug# express#have?## 8# #23.#Which#of#the#following#would#be#used#to#set#the#TRISA#register#to#control#the# direction#of#the#pic18#port#to#input?# 1# #24.#In#the#pic18#with#trisd#=#0b01111111,#what#is#te#configuration#of#the#port#d?# Bit#7#of#port#d#is#set#to#output## #25.#In#the#pic18#with#trisd##=#0b11110000#and#latd#=#0xAA,#what#value#will#be#on# port#d#and#shown#on#the#leds?# 0A# #26.#On#the#arduino#platform,#what#is#the#programming#language#used?# C#

#27.#Given:# #AX=FFD0#BX=3534#CX=0000#DXV=0180#SP=FFEE#BP=0000#SI=0000#DI=0000# DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=0111#NV#UP#EI#NG#NZ#NA#PO#CY# 1D72:0111#EB08#JMP#0119# #What#will#the#IP#value#be#after#a#“t”#command#is#executed#in#DOS#Debug?# 0119h# ##28.#How#many#bytes#are#there#in#this#short#sequence#of#code?# B400CD164CCD21CD20# 9# #29.#In#x86#architecture,#BIU#stands#for#which#of#the#following?# Bus#interface#unit# #30.#Here#is#a#short#sequence#of#code:#7413EBA3CD167D213C04EBF0EB15.#All#of#the# instructions#are#a#word#long.#The#fifth#instruction#operator#is:## CMP# #31.#The#ASCII#codes#for#space,#space,#carriage#return,#line#feed,#end#of#string#in# decimal#are:# 32,#32,#13,#10,#36# #32.#A#“NOP”#instruction#in#a#program#will:## Perform#a#no#operation# #33.#Given:## AX=FFF0#BX=3534#CX=0000#DX=0180#SP=FFEE#BP=0000#SI=0000#DI=0000# DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=0109#OV#UP#EI#PL#NZ#Na#PO#CY# 1D72:0109#7D06#JNL#0118# #What#is#the#signed#decimal#value#of#the#number#in#the#AX#register?# V16# #34.#Which#of#the#following#DOS#Debug#instructions#would#set#a#break#point#at# memory#location#010C?# G=#100#10C# #35.#In#adding#5+7#through#a#4#bit#integer#unit,#the#state#of#the#OF#and#CF#flags#after# the#add#instruction#would#be:# OF=01#CF=0# #36.#Given:##

AX=FFD0#BX=3534#CX=0000#DX=0180#SP=FFEE#BP=0000#SI=0000#DI=0000# DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=00D#OV#UP#EI#NG#ZR#NA#PO#NC# 1D72:010D#7509#JNZ#0116# #What#will#the#IP#value#be#after#a#“t”#command#is#executed#in#DOS#Debug?# 010Fh# #####37.#What#are#the#contents#of#DX#after#this#program#has#been#run:# ## # FFF0h# #38.#Which#of#the#following#DOS#Debug#instructions#would#be#used#to#change#the#IP# register#to#010C?# RIP# #39.#What#is#the#number,#1010.0101#base#2#in#decimal?# 10.31# #40.#What#command#in#DEBUG#would#be#used#to#step#through#a#program#line#by#line?# T# #41.#AND’ing#1Fh#and#02H#will#result#in#which#of#the#following?# 02# #42.#How#many#addresses#lines#would#be#required#to#address#64#MB#directly?# 26# #S2012# #1.#What#is#the#advantage#of#Assembly#language#over#C#language?## The#assembler#creates#much#faster#executable#code# #2.#How#many#address#lines#would#be#required#to#address#128#MB#directly?# 27# #

3.#In#the#x86#lab#part#3#Hello#MASM#program#in#the#original#code,#what#is#the# address#of#the#byte#used#to#start#the#number#in#the#sequence#“Hello#World#0”?# 020E# #4.#Given:# 0B0E:0200#57#65#6C#63#6F#6D#65#20V74#6F#20#41#73#73#65#6D# 0B0E:0210#62#6C#79#20#4C#61#6E#67V75#61#67#65#00#00#00#00# #An#ASCII#message#begins#at#the#memory#location#0200,#what#is#the#message?# Welcome#to#Assembly#Language# #5.#Which#of#the#following#DOS#Debug#instructions#would#be#used#to#change#the#IP# register#to#0110?# RIP# #6.#Moore’s#law#has#accurately#predicted#the#growth#rate#In#the#number#of#transistors# per#die#for#the#last#40#years.#What#is#that#rate?# Doubling#every#18V24#months# #7.#Which#of#the#following#DOS#Debug#instructions#would#set#a#break#point#at# memory#location#010C?# G#=#100#10C# #8.#AND’ing#1FH#and#02H#will#result#in#which#of#the#following?# 02# #9.#If#CX#is#0000#what#will#CX#be#after#a#“LOOP”#instruction?# FFFF# #10.#The#number#of#bits#in#a#word#are:# 16# #11.#In#86#architecture,#ALU#stands#for#which#of#the#following?# Arithmetic#Logic#Unit# #12.#Given# AX=0353#BX=0534#CX=0000#DX=0180#SP=FFEE#BP=0000#SI=0000#DI=0000# DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=0109#OV#UP#EI#PL#NZ#NA#PO#CY# 1D72:0109#7D06#JGE#0118## #What#will#the#IP#value#be#after#a#“t”#command#is#executed#in#DOS#Debug?# 010B# #13.#What#is#the#number,#1010.0101#base#2#in#decimal?# 10.31# #

14.#How#many#cores#does#the#propeller#microcontroller#have?# 8# #15.#What#is#the#hexadecimal#encoding#for#“JGE”#for#a#jump#back#12#bytes?# 7DF2# #16.#What#command#in#DEBUG#would#be#used#to#step#through#a#program#line#by#line?# T# ##17.#Here#is#a#short#sequence#of#code:#7413EBA3CD167D213C0$EBF0EB15.#All#of#the# instructions#are#a#word#long.#The#third#instruction#operator#is:## INT# #18.#In#MASM,#with#a#“MOV#CX,#24”#instruction,#and#a#“LOOP”#instruction,#in#decimal# how#many#times#will#the#program#loop?# 24# #19.#Given:## Ax=FFE0#BX=3534#CX=0000#DX=0180#SP=FFEE#BP=0000#SI=0000#DI=0000# DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=010D#NV#UP#EI#PL#NZ#NA#PO#NC# 1D72:010D#7DF6#JNL#0116# #How#many#bytes#in#decimal#will#the#processor#jump#if#the#conditions#for#a#jump# were#met?## V10# #20.#Determine#the#contents#of#registers#BL#after#the#following#instructions#have#been# executed:##

# E2H# #21.#The#ACII#Codes#for#space,#space,#carriage#return,#line#feed,#end#of#string#decimal# are:# 32,#32,#13,#10,#36# #22.#AND’ing#10H#and#2FH#will#result#in#which#of#the#following?# a.#0# #

23.#A#“NOP”#instruction#in#a#program#will:# Perform#a#no#operation# #24.#Given:# AX=FFF0#BX=3534#CX=0000#DX=0180#SP=FFEE#BP=0000#SI=0000#DI=0000# DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=0109#OV#UP#EI#PL#NZ#NA#PO#CY# 1D72:0109#7D06#JGE#0118## #What#is#the#signed#decimal#value#of#the#number#in#the#AX#register?# V16# 25.#How#many#address#lines#would#be#required#to#address#64#MB#directly?# 26# #26.#What#command#in#DEBUG#would#be#used#to#execute#interrupts?# P# #27.#What#high#level#assembly#language#is#the#propeller#programmed#in?# spin# #28.#Which#of#the#following#DOS#Debug#instructions#would#be#used#to#change#the#IP# register#to#010C?# RIP# #29.#The#acronym#PWM#used#in#the#parallax#propeller#and#microchip#pic18,#is# defined#as:# Pulse#width#modulation## #30.#Which#command#would#you#use#to#execute#another#core#in#the#propeller# microcontroller?# Cognew# #31.#Given:# AX=FFD0#BX=3534#CX=0000#DX=0180#SP=FFEE#BP=0000#SI=0000##DI=0000# DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=0111#NV#UP#EI#NG#NZ#NA#PO#CY# 1D72:0111#EB08#JMP#0119# #What#will#the#IP#value#be#after#a#“t”#command#is#executed#in#DOS#Debug?# 0119h# #32.#The#instruction#MOV#CX,#DADD#is#what#addressing#mode?# Immediate# #33.#In#the#pic18#with#trisd#=#0b00001111#and#latd#=#0xAA,#what#value#will#be#on# Port#D#and#shown#on#the#LEDs?# A0# #

34.#Given:## AX=FFE0#BX=3534#CX=0000#DX=0180#SP=FFEE#BP=0000#SI=0000#DI=0000# DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=010F#NV#UP#EI#NG#NZ#NA#PO#NC# #How#many#bytes#in#decimal#will#the#processor#jump#if#the#conditions#for#a#jump#are# met?# 24# ##35.#In#the#propeller#microcontroller,#the#command#“dira[4..9]#:#%111111”#would# cause#the#processor#to#do#which#of#the#following?# Sets#the#Propeller#pins#P4#through#P9#as#output#pins## #36.#What#are#the#contents#of#DX#after#this#program#has#been#run:#

# FFF0h# #37.#The#number#of#nibbles#in#a#word#are:## 4# #38.#In#the#propeller#microcontroller,#the#command#“waitcnt(clkfreq\*10#+#cnt)”# would#cause#the#processor#to#do#which#of#the#following?# Create#10#second#delay# #39.#The#“LOOPNE”#instruction#is#equivalent#to#which#of#the#following#instructions?# DEC#CX,#JNE# #40.#Given:## AX=FFE0#BX=3534#CX=0000#DX=0180#SP=FFEE#BP=0000#SI=0000#DI=0000# DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=010D#NV#UP#EI#NG#NZ#NA#PO#NC# 1D72:010D#EB07#JMP#0114# #How#many#bytes#will#the#processor#ump#if#the#conditions#for#a#jump#were#met?## 7# #41.#On#the#Arduino#platform,#what#is#the#programing#language#used?# c# #

42.#What#is#the#hexadecimal#encoding#for#loading#AX#with#a#word#(value)#from# memory#location#0820h?# A12008# #43.#Which#of#the#following#would#be#used#to#set#the#trisa#register#to#control#the# direction#of#the#pic18#port#to#input?# 1# #44.#The#acronym#ADC#in#microcontrollers#stands#for#which#of#the#following?# Analog#to#Digital#Converter# 45.#In#adding#5+5#through#a#4#bit#integer#unit.#The#state#of#the#OF#and#CF#flags#after# the#add#instruction#would#be## OF=1#CF=0## #S2007# #1.#Given:## AX=FFD0#BX=3534#CX=0000#DX=0190#SP=FFEE#BP=0000#SI=0000#DI=0000# DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=010E#OV#UP#EI#PL#NZ#NA#PO#CY# 1D72:0109#7D06#JNL#0118# #What#will#the#IP#value#be#after#a#“t”#command#is#executed#in#DOS#Debug?# 0110# #2.#The#instruction#MOV#BX,#2BAD#is#what#addressing#mode?# Immediate# #3.#What#is#the#hexadecimal#encoding#for#“JNL”#for#a#jump#back#10#bytes?# 7DF4#if#that’s#not#there#try#7DF6# #4.#How#many#address#lines#would#be#required#to#address#64#MB#directly?# 26# #5.#The#number#of#nibbles#in#a#double#word#are:# 8# #7.#Int#21h,#Function#09h#requires#three#things#set#up#before#calling#in#order#to# correctly#print#a#string,#Hello\_msg.#They#are:# DS#=#SEG#Hello\_msg,#DX#=#OFFSET#Hello\_msg,#Hello\_msg#terminated#with#24h# #21.#What#are#the#contents#of#DX#after#this#program#has#been#run:## #

# #FFF0h# #22.#In#using#INT#10h#to#move#the#screen#cursor#to#return#on#the#same#line,#what# value#must#be#in#the#AX#register?# #23.#Given:# AX=FFD0#BX=3534#CX=0000#DX=0180#SP=FFEE#BP=0000#SI=0000#DI=0000# DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=010D#OV#UP#EI#PL#NZ#NA#PO#NC# 1D72:010D#7D09####JNLE#0118# #What#will#the#IP#value#be#after#a#“t”#command#is#executed#in#DOS#Debug?# 010Fh# #24.#Which#of#the#following#DOS#Debug#instructions#would#be#used#change#the#AX# register?# RAX# #25.#How#many#bytes#are#there#in#this#short#sequence#of# codeB815B400CD168A3CCD20# 10# #S2006# #1.#Given:# AX=FFF0#BX=3534#CX=0000#DX=0180#SP=FFEE#BP=0000#SI=0000#DI=0000# DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP#0109#OV#UP#EI#PL#NZ#NA#PO#CY# 1D72:0109#7D06#JNL#0118# #What#is#the#signed#decimal#value#of#the#number#in#the#AX#register?# V16# #2.#What#are#the#contents#of#BX#after#this#program#has#been#run:#

# 1100h# #

5.#Determine#the#contents#of#register#BL#after#the#following#instructions#have#been# executed:## #Program#Listing# MOV#BL,#E2H# MOV#CL,#1000b# ROL#BL,#CL# #E2H# ##6.##Which#of#the#following#DOS#Debug#instructions#would#set#a#break#point#at# memory#location#010E?# G=100#10E# #12.#How#many#bytes#are#there#in#this#short#sequence#of#code?#B400CD16CD20# 6# #1010#0110#in#2’s#complement#in#base#10.## V90## #17.#Given:# 13A7:0110#CD#20#32#20#54#48#69#73V20#69#73#20#74#68#65#20# 13A7:0120#66#69#72#73#74#20#4D#69V64#74#65#72#6D#0D#24#D9# 13A7:0130#00#C6#00#00#00#00#00#00V00#00#00#00#00#0#0#00#00## #An#input#buffer#is#at#memory#location#0114,#what#is#the#size#of#the#buffer#in#decimal?# 84# ##A#microprocessor#with#a#32Vbit#address#bus#could#access#how#much#memory?# 4#GB# #33.#The#number#of#nibbles#in#a#double#word#are:## 8# #S2002# #23.#The#instruction#MOV#BX,#[SI]#is#what# Register#indirect# #13.#Given:#AX=2247#BX=0000#CX=0000#DX=0000#SP=FFEE#BP=0000#SI=0000# DI=0000#DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=0106#NV#UP#EI#PL#ZR#NA#PE#NC# 1D72:0106#750F#JZ#0118# #What#will#the#ip#value#be#after#a#“t”#command#is#executed#in#DOS#Debug?## 0118h#

##What#are#the#contents#of#AX#after#this#program## #

# #7.#Int#21h,#Function#09h#requires#three#things#set#up#before#calling#in#order#to# correctly#print#a#string,#welcome\_message.#They#are:# DS#=#SEG#welcome\_message,#DX#=#OFFSET#welcome\_message,#welcome\_message# terminated#with#24h######24#=$# #15.#Int#10h#uses#what#fuction#code#to#write#a#character#to#the#screen#and#advance# the#cursor#one#by#one#character#position?# 0Eh# #14.#Determine#the#contents#of#register#AL#after#the#following#instructions#have# executed:##

# F0h# #12.#Given# AX=FFD0#BX=3534#CX=0000#DX=0180#SP=FFEE#BP=0000#SI=0000#DI=0000# DS=1D72#ES=1D72#SS=1D72#CS=1D72#IP=010C#NV#UP#EI#NG#NZ#NA#PO#CY# 1D72:010C#7D06#JNL#0116# #What#will#the#IP#value#be#after#a#“t”#command#is#executed#in#DOS#Debug?# No#answer#available# #11.#Which#instruction#below#loads#register#CX,#with#the#word#beginning#at#physical# address#40708b?# MOV#CX,#[0308]# #10.#Here#is#a#short#sequence#of#code:#B400CD163C4A74043C6A7513.#All#of#the# instructions#are#two#bytes#long.#The#forth#instruction#operator#is:## JZ#

17.#The#instruction#JNGE#compares#which#of#the#following?# The#sign#flag#and#overflow#flag#to#see#if#the#NOR#of#the#two#fags#is#equal#to## #15.#Int#10h#uses#what#function#code#to#write#a#character#to#the#screen#and#advance# the#cursor#by#one#character#position?# 0Eh# #10.#Here#is#a#short#sequence#code#B400CD163C4A74643C6A7513.#All#of#the# instructions#are#two#bytes#long.#The#second#instruction#operator#is:## int# #9.#Which#instruction#below#loads#register#BX,#with#the#word#beginning#at#physical# address#90802h?#Assume#DS=9020,#BX=2800# MOV#BX,#[0602]# #8.#You#add#9+8#through#a#4Vbit#integer#unit.#The#sate#of#the#OF#and#CF#flags#after#the# add#will#be:#(First#digit#the#OF,#second#is#the#CF)# 11#

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**Question 1**

Answer saved

Marked out of 1

**How many nibbles are in single precision IEEE floating point format numbers (32bit)?**

Select one:

a. **16**

b. **64**

c. **8**

d. **80**

e. **10**

f. **4**

g. **2**

h. **20**

i. **32**

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**Question 2**

Answer saved

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**In the PIC18 with TRISD = 0b01111111, what is the configuration of the Port D?**

Select one:

a. **Port D is set as an output port**

b. **Port D is set as an input port**

c. **Bit 7 of port D is set to output**

d. **Port D is set to 127 decimal**

e. **Bit 7 of port D is set to input**

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**Question 3**

Answer saved

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**A “pull up” resistor is used in digital circuits to do what?**

Select one:

a. **To keep the signal “tied” high until the line is active (goes low)**

b. **To make sure the digital line is always high**

c. **To keep the voltage at 1Volt**

d. **To keep the signal line “tied” low until the line is active (goes high)**

e. **To keep the voltage at 0Volts**

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**Question 4**

Answer saved

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**With a POPA instruction, what will be the order of the accumulator, base, count, and data registers restored from the stack?**

Select one:

a. **AX**

b. **BDCA**

c. **ABCD**

d. **BX**

e. **ACDB**

f. **DCBA**

g. **DBAC**

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**Question 5**

Answer saved

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**Which of the following is not a valid command for moving a number into a register in MASM?**

Select one:

a. **MOV AH, 0BCH**

b. **MOV CL, 220**

c. **MOV AX, 0BEEFH**

d. **MOV AX, AADDH**

e. **MOV BL, 01010010B**

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**Question 6**

Answer saved

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**Given the short code, what is the value in AX after the program is run?**

**Program Listing**

**Mov BX, 0005**

**Push BX**

**Mov AX, 0100**

**POP AX**

Select one:

a. **0500**

b. **0001**

c. **0005**

d. **0000**

e. **0100**

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**Question 7**

Answer saved

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**What flag(s) does the “LOOPNE” instruction look at to determine whether to loop or not?**

Select one:

a. **SF and ZF**

b. **BX**

c. **SF and OF**

d. **AX**

e. **DX**

f. **OF and CF**

g. **ZF**

h. **CX**

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**Question 8**

Answer saved

Marked out of 1

**The instruction MOV CX, [4DAD] is what addressing mode?**

Select one:

a. **Direct**

b. **Register Indirect**

c. **Scaled Index**

d. **Immediate**

e. **Register**

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**Question 9**

Answer saved

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**If CX is 0001, what will CX be after a “LOOPNZ” instruction?**

Select one:

a. **AX**

b. **FFFF**

c. **DX**

d. **0003**

e. **0002**

f. **0000**

g. **0001**

h. **BX**

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**Question 10**

Answer saved

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**What is(are) the advantage(s) of Assembly Language over C Language?**

Select one:

a. **Hand assembly coding is much faster in C**

b. **All the answers**

c. **The Assembler creates much faster executable code**

d. **C is transportable to other microprocessor architectures**

e. **C does not need a compiler to be assembled in to an executable program.**

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**Question 11**

Answer saved

Marked out of 1

**The Ladder Logic diagram would represent which of the following?**

Select one:

a. **XOR**

b. **CLOSED CIRCUIT**

c. **NAND**

d. **NOR**

e. **AND**

f. **XNOR**

g. **OPEN CIRCUIT**

h. **OR**

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**Question 12**

Answer saved

Marked out of 1

**You are trying to rebuild a HELLO project program in MASM and you get the following error: “LINK : fatal error L1089: HELLO.lrf : cannot open response file”. What would be the reason for such an error?**

Select one:

a. **No project was setup**

b. **No source file is identified (no .asm file)**

c. **No listing file was selected (or requested)**

d. **No ” .mak “ file specified**

e. **MASM isn’t installed correctly on the computer being used**

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**Question 13**

Answer saved

Marked out of 1

**A “POP” instruction:**

Select one:

a. **increments the IP**

b. **increments the Stack Pointer, SP**

c. **points to the data inputted from the keyboard**

d. **stores the returning address**

e. **decrements the Stack Pointer, SP**

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**Question 14**

Answer saved

Marked out of 1

**Ladder Logic is used in\_\_\_\_\_\_\_\_\_**

Select one:

a. **CPUs**

b. **PLCs**

c. **BIUs**

d. **Power Logic Controllers**

e. **ALUs**

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**Question 15**

Answer saved

Marked out of 1

**18 hexadecimal would be what value in decimal?**

Select one:

a. **18**

b. **54**

c. **20**

d. **12**

e. **24**

f. **36**

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**Question 16**

Answer saved

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**The acronym PWM used for motor control, is defined as which of the following?**

Select one:

a. **Parallel Width Manipulation**

b. **Pulse Width Modulation**

c. **Parallel Wide Manipulator**

d. **Poor Wonderer Manipulator**

e. **Parallel Width Modulator**

f. **Pulse Wide Manipulator**

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**Question 17**

Answer saved

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**The letters “NO” labeled on relays and PLCs means which of the following?**

Select one:

a. **Not On the controller**

b. **Normally Open**

c. **Indicates the system is functional**

d. **Normal Operation**

e. **No Opcode**

f. **Normally Off**

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**Question 18**

Answer saved

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**How many nibbles are in extended precision IEEE floating point format numbers (80bit)?**

Select one:

a. **8**

b. **10**

c. **2**

d. **20**

e. **80**

f. **32**

g. **4**

h. **64**

i. **16**

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**Question 19**

Answer saved

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**In the PIC18 with TRISD = 0b10000000, what is the configuration of the Port D?**

Select one:

a. **Port D is set to 127 decimal**

b. **Port D is set as an input port**

c. **Bit 7 of port D is set to output**

d. **Port D is set as an output port**

e. **Bit 7 of port D is set to input**

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**Question 20**

Answer saved

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**What is the numeric sequence of the key pad columns on the PPE board?**

Select one:

a. **37,2F,1F**

b. **2,4,6,8**

c. **378,379**

d. **08, 10, 20**

e. **1,2,4,8,**

f. **1,2.3.4**

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**Question 21**

Answer saved

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**The Ladder Logic diagram would represent which of the following?**

Select one:

a. **NOR**

b. **CLOSED CIRCUIT**

c. **XNOR**

d. **OR**

e. **XOR**

f. **AND**

g. **NAND**

h. **OPEN CIRCUIT**

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**Question 22**

Answer saved

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**What Hex values must be sent to address the key pad rows on the PPE board?**

Select one:

a. **1,2,4,8,**

b. **378,379**

c. **37,2F,1F**

d. **08, 10, 20**

e. **2,4,6,8**

f. **1,2.3.4**

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**Question 23**

Answer saved

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**In MASM, with a “MOV CX, 24h” instruction, and a “LOOP” instruction, in decimal how many times will the program loop?**

Select one:

a. **36**

b. **0C**

c. **12**

d. **24**

e. **18**

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**Question 24**

Answer saved

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**You are trying to rebuild a HELLO project program in MASM and you get the following error: “LINK : warning L4021: no stack segment”. What would be the reason for such an error?**

Select one:

a. **No project template for COM was selected**

b. **MASM isn’t installed correctly on the computer being used**

c. **No ” .mak “ file specified**

d. **No project was setup**

e. **No source file is identified (no .asm file)**

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**Question 25**

Answer saved

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**What register(s) does the “LOOPNE” instruction look at to determine how many times to loop?**

Select one:

a. **CX**

b. **AX**

c. **OF and CF**

d. **SF and ZF**

e. **ZF**

f. **DX**

g. **SF and OF**

h. **BX**

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**Question 26**

Answer saved

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**In the Propeller, how many values does a method return?**

Select one:

a. **4**

b. **As many values as there are objects in the method**

c. **1**

d. **2**

e. **8**

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**Question 27**

Answer saved

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**The Ladder Logic diagram would represent which of the following?**

Select one:

a. **OR**

b. **NOR**

c. **XOR**

d. **OPEN CIRCUIT**

e. **CLOSED CIRCUIT**

f. **NAND**

g. **AND**

h. **XNOR**

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**Question 28**

Answer saved

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**In the Propeller microcontroller, the term “Method” is(are) which of the following?**

Select one:

a. **Variables given to objects, they can be available to other objects or variable used within an object.**

b. **A processor inside the propeller chip, the propeller has 8 methods per chip.**

c. **A block of executable commands that has variables, can receive parameters, and returns a value.**

d. **An application building block comprised of all the code.**

e. **All the answers**

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**Question 29**

Answer saved

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**How much global RAM does the Propeller microcontroller have?**

Select one:

a. **4KB**

b. **16KB**

c. **2GB**

d. **8MG**

e. **32KB**

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**Question 30**

Answer saved

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**Given: 13A7:0110 CD 20 30 20 54 68 69 73-­50 30 73 20 74 68 65 20 13A7:0120 66 69 72 73 74 20 4D 69-­64 74 65 72 6D 0D 24 D9 13A7:0130 00 C6 00 00 00 00 00 00-­00 00 00 00 00 00 00 00 An input buffer is at memory location 0118, how many bytes are in the buffer (in decimal)?**

Select one:

a. **30**

b. **80**

c. **20**

d. **32**

e. **48**

f. **50**

g. **25**

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**Question 32**

Answer saved

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**What command in MASM-­CodeView (debugging mode) would be used to step through a program line by line?**

Select one:

a. **T (F8)**

b. **P (F10)**

c. **R**

d. **RCS**

e. **RIP**

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**Question 33**

Answer saved

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**For the instruction sequence below, determine the contents of the register AL after this program is executed: Program Listing**

**MOV AL, 83h**

**ADD AL, 68h**

**DAA**

Select one:

a. **63h**

b. **151d**

c. **68h**

d. **F1h**

e. **151h**

f. **51h**

g. **EBh**

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**Question 34**

Answer saved

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**This section of memory represents a stack. What type of program is this? BEEF:FFD0 00 00 00 00 00 00 00 00-­00 00 00 00 00 00 00 00 BEEF:FFE0 00 01 02 03 04 05 06 07-­08 09 0A 0B 0C 0D 0E 0F BEEF:FFF0 11 22 33 44 55 66 77 88-­99 AA BB CC DD EE FF**

Select one:

a. **50**

b. **COM program**

c. **80**

d. **COM program with different segments**

e. **EXE program**

f. **EXE program with overlapping segments**

g. **COM program without a PSP**

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**Question 35**

Answer saved

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**How many bit(s) is/are required to represent a range of decimal numbers from 0 to 99?**

Select one:

a. **6**

b. **4**

c. **1**

d. **100**

e. **7**

f. **8**

g. **2**

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**Question 36**

Answer saved

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**In the PIC18 with TRISD = 0b11111111, what is the configuration of the Port D?**

Select one:

a. **Bit 8 of port D is set to output**

b. **Bit 8 of port D is set to input**

c. **Port D is set to 127 decimal**

d. **Port D is set as an output port**

e. **Port D is set as an input port**

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**Question 37**

Answer saved

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**How many nibbles are in double precision IEEE floating point format numbers (64bit)?**

Select one:

a. **2**

b. **80**

c. **64**

d. **32**

e. **8**

f. **16**

g. **4**

h. **10**

i. **20**

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**Question 38**

Answer saved

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**The Ladder Logic diagram would represent which of the following?**

Select one:

a. **NAND**

b. **NOR**

c. **AND**

d. **CLOSED CIRCUIT**

e. **XNOR**

f. **XOR**

g. **OR**

h. **OPEN CIRCUIT**

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**Question 39**

Answer saved

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**Which of the following is a valid x86 command for multiplying a number?**

Select one:

a. **MUL AX, BADh**

b. **MUL BX**

c. **MUL BX, 0C40Fh**

d. **MUL 10h**

e. **MUL CL,BL**

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**Question 40**

Answer saved

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**The instruction MOV CX, [SI] is what addressing mode?**

Select one:

a. **Immediate**

b. **Direct**

c. **Register**

d. **Scaled Index**

e. **Register Indirect**

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**Question 41**

Answer saved

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**Which of the following will cause a program with a LOOP instruction to loop 48 times (decimal)?**

Select one:

a. **AX = 48d**

b. **BX = 30h**

c. **CX = 30h**

d. **DX = 47h**

e. **DX = 48h**

f. **CX = 48h**

g. **AX = 30h**

h. **BX = 48d**

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**Question 42**

Answer saved

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**On the PPE board, what number(s) on the key pad is(are) pressed for an output port value of 08h and an input port value of 2Fh?**

Select one:

a. **5**

b. **1,2.3.4**

c. **0**

d. **378,379**

e. **37,2F,1F**

f. **8**

g. **1,2,4,8,**

h. **2,4,6,8**

i. **08, 10, 20**

j. **2**

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**Question 43**

Answer saved

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**If you want to use a INT software interrupt function to print a string out to the screen, what is the function code, start pointer, termination character, and interrupt you need to use?**

Select one:

a. **ah = 09h, ds:dx, "$", 21h**

b. **ah = 09h, es:dx, ":", 10h**

c. **ah = 0eh, es:dx, ":", 10h**

d. **ah = 0eh, ds:dx, "$", 10h**

e. **ah = 10h, ds:dx, "$", 21h**

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**Question 44**

Answer saved

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**On the Arduino platform, what is the programming language used?**

Select one:

a. **Spin**

b. **x86 assembly**

c. **C**

d. **C#**

e. **Forth**

f. **Java**

g. **F**

h. **Arduino Basic**

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**Question 45**

Answer saved

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**If the SP is F00F, what is the SP value after a “POP CX” instruction?**

Select one:

a. **F012**

b. **F00C**

c. **F00D**

d. **F011**

e. **F010**

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**Question 46**

Answer saved

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**In the PIC18 with TRISD = 0b11110000 and LATD = 0xAA, what value will be on Port D and shown on the LEDs?**

Select one:

a. **0F**

b. **A0**

c. **F0**

d. **AA**

e. **0A**

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**Question 47**

Answer saved

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**Given the short sequence of instructions (code), what is the value in AX after the program is run? Program Listing**

**Mov BX, 0001**

**Push BX**

**Mov AX, 0500**

**POP AX**

Select one:

a. **0000**

b. **0001**

c. **0100**

d. **0500**

e. **0005**

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**Question 48**

Answer saved

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**What type of program is this? AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 SI=0000 DI=0000**

**DS=1476 ES=1576 SS=1676 CS=1376 IP=0015 NV UP EI PL NZ NA PO NC 1376:0015 0100 ADD [BX+SI],AL DS:0000=CD**

Select one:

a. **EXE program with overlapping segments**

b. **MASM**

c. **EXE program**

d. **ADD**

e. **COM program without a PSP**

f. **Debug**

g. **COM program**

h. **COM program with different segments**

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**Question 49**

Answer saved

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**What is(are) the advantage(s) of C Language over Assembly Language?**

Select one:

a. **C does not need a compiler to be assembled in to an executable program.**

b. **All the answers**

c. **C is transportable to other microprocessor architectures**

d. **The Assembler creates much faster executable code**

e. **Hand assembly coding is much faster in C**

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**Question 50**

Answer saved

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**What is -­32.75 in base two number system?**

Select one:

a. **011111.1100**

b. **-­100000.11000**

c. **100000.11000**

d. **100000.0111**

**10**

e. -**111100.0111**

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**Question 51**

Answer saved

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**If 10Hex is ADDed with 2FHex would result in which of the following Decimal numbers?**

Select one:

a. **16**

b. **3F**

c. **63**

d. **C0**

e. **FF**

f. **0**

g. **45**

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**Question 52**

Answer saved

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**This section of memory represents a stack. What type of program is this? BEEF:00D0 00 00 00 00 00 00 00 00-­00 00 00 00 00 00 00 00 BEEF:00E0 00 01 02 03 04 05 06 07-­08 09 0A 0B 0C 0D 0E 0F BEEF:00F0 11 22 33 44 55 66 77 88-­99 AA BB CC DD EE FF**

Select one:

a. **ADD**

b. **COM program**

c. **Debug**

d. **EXE program with overlapping segments**

e. **COM program with different segments**

f. **EXE program**

g. **MASM**

h. **COM program without a PSP**

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**Question 53**

Answer saved

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**A “pull down” resistor is used in digital circuits to do what?**

Select one:

a. **To keep the signal “tied” high until the line is active (goes low)**

b. **To keep the signal line “tied” low until the line is active (goes high)**

c. **To keep the voltage at 1Volt**

d. **To keep the voltage at 0Volts**

e. **To make sure the digital line is always high**

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**Question 54**

Answer saved

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**With a PUSHA instruction, what will be the order of the accumulator, base, count, and data registers stored on the stack?**

Select one:

a. **DBAC**

b. **DCBA**

c. **BX**

d. **ACDB**

e. **AX**

f. **BDCA**

g. **ABCD**

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**Question 55**

Answer saved

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**If CX is 0003, what will CX be after a “LOOPNZ” instruction?**

Select one:

a. **0002**

b. **BX**

c. **DX**

d. **0000**

e. **0001**

f. **FFFF**

g. **AX**

h. **0003**

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**Question 56**

Answer saved

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**In the PIC18 with TRISD = 0b01000000, what is the configuration of the Port D?**

Select one:

a. **Port D is set as an input port**

b. **Bit 6 of port D is set to output**

c. **Port D is set as an output port**

d. **Bit 6 of port D is set to input**

e. **Port D is set to 127 decimal**

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**Question 57**

Answer saved

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**The Ladder Logic diagram would represent which of the following?**

Select one:

a. **CLOSED CIRCUIT**

b. **NAND**

c. **NOR**

d. **XNOR**

e. **XOR**

f. **OPEN CIRCUIT**

g. **OR**

h. **AND**

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**Question 58**

Answer saved

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**A “PUSH” instruction:**

Select one:

a. **points to the data inputted from the keyboard**

b. **increments the IP**

c. **stores the returning address**

d. **decrements the SP**

e. **increments the SP**