REPORT

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EXERCISE TRACE:

ASSEMBLY

In the morning theoretical lesson, we saw the fundamentals of the Assembly language. Given the code in Assembly for the x86 CPU attached below, identify the purpose of each instruction by inserting a description for each line of code. Remember that numbers in the format 0xYY are hexadecimal numbers. To convert them to decimal numbers, use an online converter or your computer's calculator (for programmers).

- *0x00001141 <+8>: mov EAX,0x20*
- *0x00001148 <+15>: mov EDX,0x38*
- *0x00001155 <+28>: add EAX,EDX*
- *0x00001157 <+30>: mov EBP, EAX*
- *0x0000115a <+33>: cmp EBP,0xa*
- *0x0000115e <+37>: jge 0x1176 <main+61>*
- *0x0000116a <+49>: mov eax,0x0*
- *0x0000116f <+54>: call 0x1030 <printf@plt>*
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RESOLUTION:

mov EAX,0x20: This statement moves the hexadecimal value 0x20 (32 in decimal) to the EAX register.

mov EDX,0x38: This statement moves the hexadecimal value 0x38 (56 in decimal) to the EDX register.

add EAX,EDX: This statement adds the contents of the EDX register (56) to the contents of the EAX register (32) and stores the result in EAX.

mov EBP,EAX: This statement copies the value contained in the EAX log (which is now 32 + 56 = 88) to the EBP log.

cmp EBP,0xa: This statement compares the value contained in the EBP register (which is 88) with the hexadecimal value 0xa (10 in decimal).

jge 0x1176 <main+61>: This statement jumps to the 0x1176 address if the result of the previous comparison (CMP) is greater than or equal to 0xa (i.e., if the value in EBP is greater than or equal to 10).

mov eax,0x0: This statement assigns the hexadecimal value 0x0 (0 in decimal) to the eax register.

call 0x1030 <printf@plt>: This statement calls the printf function located at address 0x1030. Presumably, this statement is for printing something, since it calls a text output function like printf.

THANKS!

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