**Homework #1** Due: Oct. 14

1. What is the function of the CPU subsystem in a computer?
2. What is the difference between *von Neumann* and *Harvard* model?
3. Convert the hexadecimal number A9 to:
4. octal
5. decimal
6. binary
7. Convert the decimal number 169 to:
8. binary
9. octal
10. hexadecimal
11. Convert the binary number 10101001 to:
12. octal
13. decimal
14. hexadecimal
15. What is ASCII code? What is the ASCII code for the character 5?
16. Use 8 bits memory to represent integer number 5.
17. Use two’s complement method to store the following decimal integers to binary numbers with 8-bit allocation.
18. 53
19. −107
20. Normalize the following binary floating-point numbers. Explicitly show the value of the exponent after normalization.
21. (101.11)2
22. (10.111)2
23. Convert the decimal number to binary number:
24. 161.875
25. 0.0234375