



Central Administration for General Education

Educational Computer Material Development Department

Under the patronage of His Excellency the Minister of Education,

Mr. Mohamed Abdel Latif

Weekly Assessments for Programming and Artificial Intelligence for General Education (First Secondary Grade)

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Sixth Week

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Weekly Assessment:

First test

- 1) What is the relationship between the 9's Complement and the 10's Complement?
 - a. The 10's Complement is the 9's Complement minus 1.
 - b. The 10's Complement is the 9's Complement plus 1.
 - c. The 10's Complement is the 9's Complement multiplied by 10.
 - d. The 10's Complement is the 9's Complement divided by 10.
- 2) What is the One's Complement of the binary number 0101?
 - a. 0101₍₂₎
 - b. 1011₍₂₎
 - c. 1010₍₂₎
 - d. 0110₍₂₎
- 3) In the method of subtraction using complements, which operation does a computer use instead of subtraction?
 - a. Multiplication
 - b. Division
 - c. Addition
 - d. Subtraction itself
- 4) To calculate the 10's complement of the number 29, you first find its 9's complement, which is 70. What is the 10's Complement?
 - a. 70
 - b. 71
 - c. 69
 - d. 80

Second test

- 1) To calculate the 9's Complement of a decimal number, you subtract each digit from:
- a. 10
 - b. 9
 - c. 5
 - d. 1
- 2) How do you get the Two's Complement from the One's Complement?
- a. By flipping the bits again.
 - b. By subtracting₍₂₎ 1 from the One's Complement.
 - c. By adding₍₂₎ 1 to the One's Complement.
 - d. By ignoring the leading digit.
- 3) When subtracting using complements, what should you do with the final carry digit?
- a. Add it to the next digit.
 - b. Multiply it by two.
 - c. Leave it as it is.
 - d. Ignore it.
- 4) Based on the example in the file, what is the Two's Complement of the binary number $0101_{(2)}$?
- a. $1010_{(2)}$
 - b. $1011_{(2)}$
 - c. $0101_{(2)}$
 - d. $0001_{(2)}$

Third test

1) What is the 9's Complement of the number 635?

- a. 635**
- b. 365**
- c. 463**
- d. 364**

2) In the binary system, what do you do to each bit to find the One's Complement?

- a. Multiply it by 2.**
- b. Subtract it from 10.**
- c. Invert it (flip it) from 0 to 1 and 1 to 0.**
- d. Add 1 to it.**

3) In subtraction using complements, you must first find the complement of the:

- a. Subtracted from.**
- b. Subtrahend**
- c. Final result.**
- d. Leading digit.**

4) In the decimal subtraction $8 - 6$ using complements, you add 8 to the 10's complement of 6 (which is 4). What is the result of this addition before you ignore the carry digit?

- a. 2**
- b. 4**
- c. 12**
- d. 8**