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# Part 0: Preparation

* Download “Activity 1 Resources” from CourseVille.
* In Part 2, each group is assigned to work with the files: [YOUR\_GROUP\_NO].bmp, and [YOUR\_GROUP\_NO].gif in “02 Pic” folder
* Answer the questions in the box given and submit this file (.docx format) to CourseVille.

# Part 2 : Image Representation

## BMP Image Representation

(Use the file name: [YOUR\_GROUP\_NO].bmp in “02 Pic” folder)

1. Use “File Explorer” to observe the file
   * What is the file size (in bytes)?

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| --- |
| 822 bytes |

* + Write the file size using a 2-byte Hexadecimal Notation.

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| --- |
| 03 36 |

1. Open the BMP file assigned to your group in HexEdit
   * Under the “Template” menu item, apply the template you think will help you analyze the BMP file format.
   * By observing the Hex content of the file, explain at least 2 ways to know the size of the file in bytes. Is the size similar to what can be seen from “File Explorer”? (Hint: file size showing with little endian byte order)

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| IAR Migration Techniques for Different Endianness1. Read from File Explorer in properties menu (822 bytes)  2. Count byte in Hex Edit (51\*16+6=822 bytes) 51 มาจากบรรทัดใน HexEdit และ  16 มาจาก 1 บรรทัดมี 16 ตัว, 6 ตัวเป็นเศษจากบรรทัดสุดท้าย  3.อ่านจาก byte ที่ 002-005 นั่นคือ 00 00 03 36 (822 bytes)  สรุปคือ ขนาดเหมือนกัน |

* + What is the dimension of the image, and how can you find it in HexEdit?

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| 16x16, ดูจาก width กับ height โดยดูจาก 012-015 และ 016-019 |

* + What does the content at 01C - 01D represent?

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| --- |
| bitcount |

* + Explain how is the color of a pixel encoded?

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| Color is represented in 3-bit hexadecimal |

* + What is the RGB value (in hexadecimal) of the color used for the background in the image file?

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| --- |
| #0600ff |

* + What is the RGB value (in hexadecimal) of the color used for the outline of the shape in the image file?

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| --- |
| #ffffff |

1. Edit the Hex content of the file so that the shape is filled with a color of your choice that is different from the color of the outline and the color of the background.
   * Explain the steps you did in completing the filling.

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| 1. Pick the color (#FE 00 00)  2. แทนสีที่เลือกแทนลงไปในสี 17 ตัวท้าย |

* + Save the new image with different filename. Insert the image (both original and edited version) in this answer box.

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