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| **ENCS336-COMPUTER ORGANIZATION  AND ASSEMBLY LANGUAGE**  Project  *1/11/2025*  ANAS AL SAYED 1221020  ABD AL-RHEEM YASEEN 1220783  Sec :2  Instructor: Abualseoud Hanani | |

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# program outputs screenshots:

Figure 1: When user enter correct id and correct password case (swap)

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Figure 2: When user enter correct id and correct password case (rotate)

# 

Figure 3: When user enter wrong id

# 

Figure 4: When user enter correct id and wrong password case

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# Password Encryption:

| **ID** | **Password (Original)** | **Binary (Original)** | **Password (Encrypted)** | **Binary (Encrypted)** | **Encryption Type** |
| --- | --- | --- | --- | --- | --- |
| **65** | **125** | **0111 1101** | **252** | **1111 1100** | **Swap** |
| **148** | **84** | **0101 0100** | **21** | **0001 0101** | **Rotate** |
| **526** | **29** | **0001 1101** | **156** | **1001 1100** | **Swap** |
| **2036** | **37** | **0010 0101** | **164** | **1010 0100** | **Swap** |
| **1504** | **187** | **1011 1011** | **238** | **1110 1110** | **Rotate** |
| **82** | **219** | **1101 1011** | **246** | **1111 0110** | **Rotate** |
| **112** | **62** | **0011 1110** | **143** | **1000 1111** | **Rotate** |
| **2840** | **75** | **0100 1011** | **202** | **1100 1010** | **Swap** |
| **940** | **141** | **1000 1101** | **99** | **0110 0011** | **Rotate** |
| **1292** | **243** | **1111 0011** | **252** | **1111 1100** | **Rotate** |

**Explanation of the Encryption Types:**

1. **Swap**:
   * If the two bits are the not the same.
   * The Least Significant Bit (LSB) and Most Significant Bit (MSB) are swapped.
   * Example: ID=65, Password=125 (0111 1101) → Encrypted Password=252 (1111 1100).
2. **Rotate**:
   * If the two bits are the same.
   * The bits of the password are rotated (e.g., right rotation by 2 bits).
   * Example: ID=148, Password=84 (0101 0100) → Encrypted Password=21 (0001 0101).