ENCS336 – COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE

PROJECT

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لن يستطيعوا كسر إرادتنا. كلنا غزة
OUR WILL IS UNBREAKABLE... WE ARE ALL GAZA

PROGRAM OUTPUTS SCREENSHOTS:

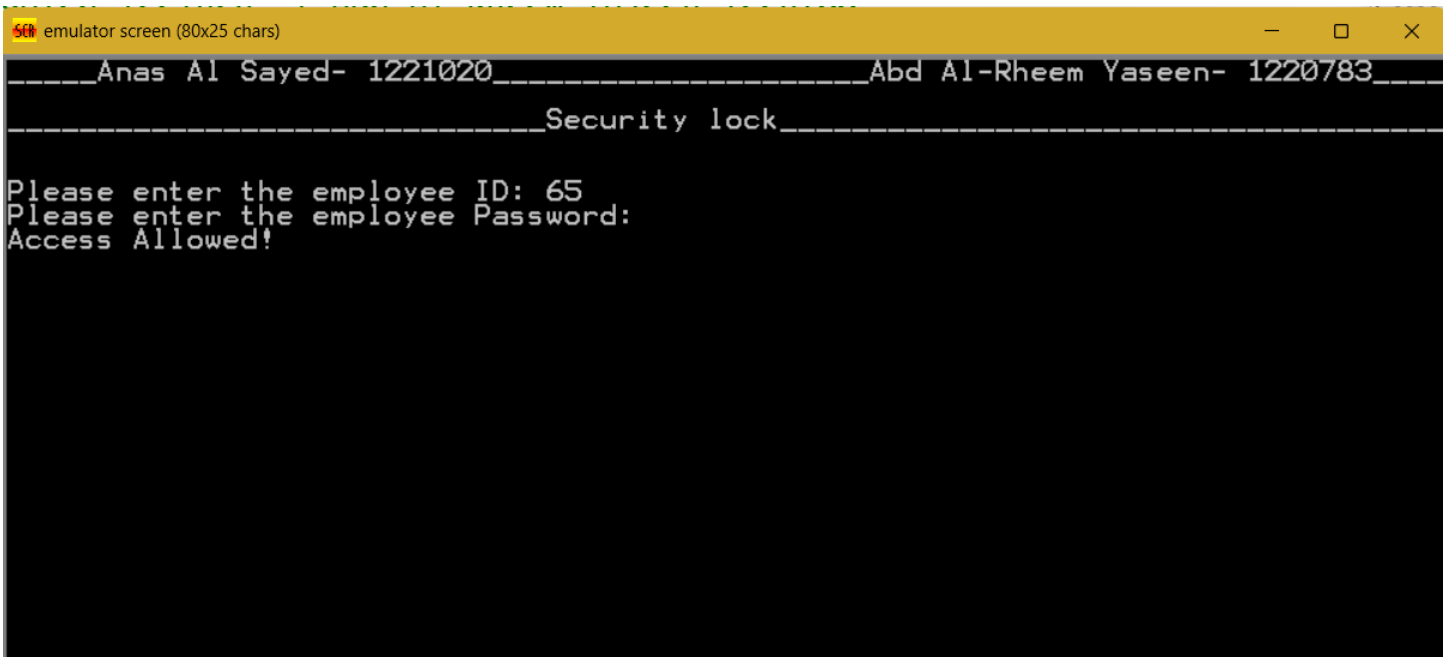

Figure 1: When user enter correct id and correct password case (swap)

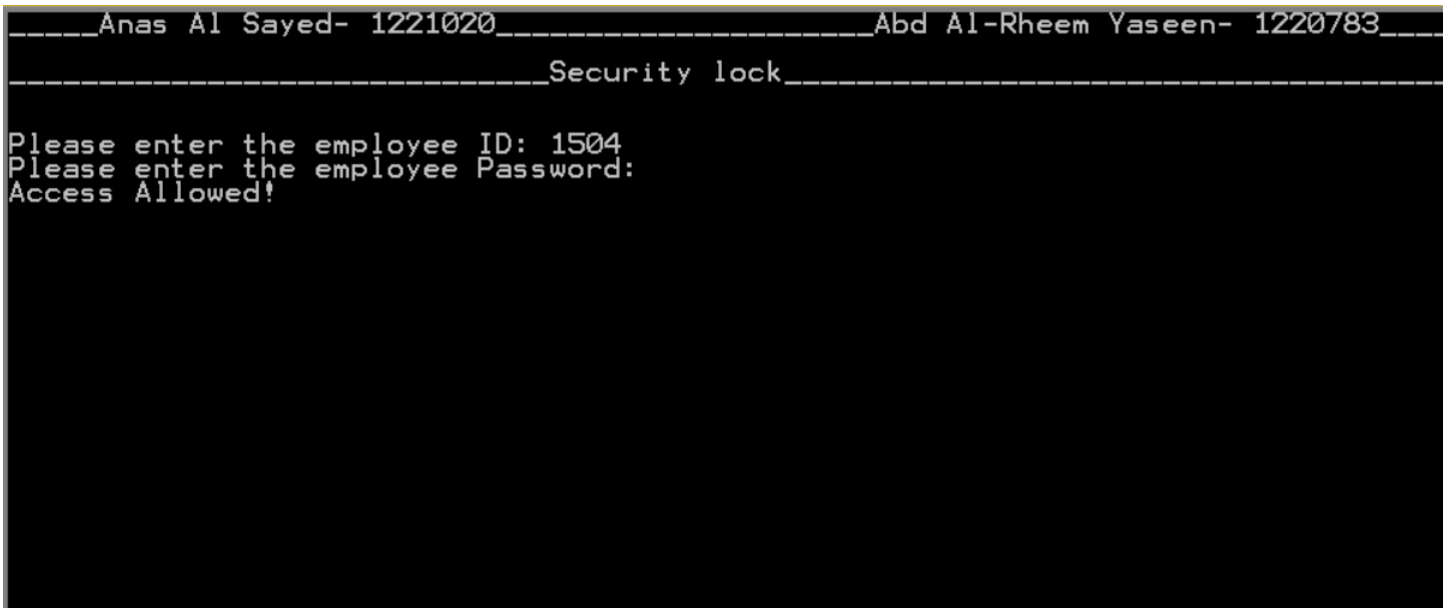

Figure 2: When user enter correct id and correct password case (rotate)

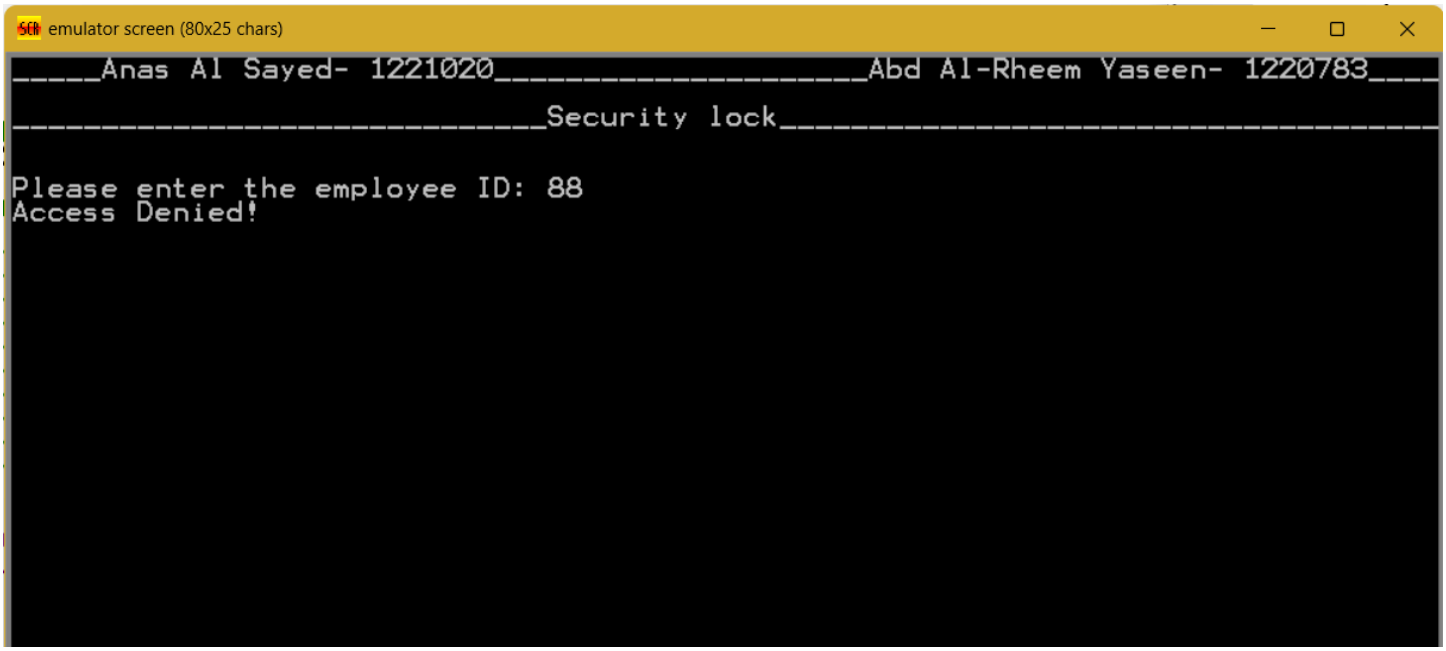

Figure 3: When user enter wrong id

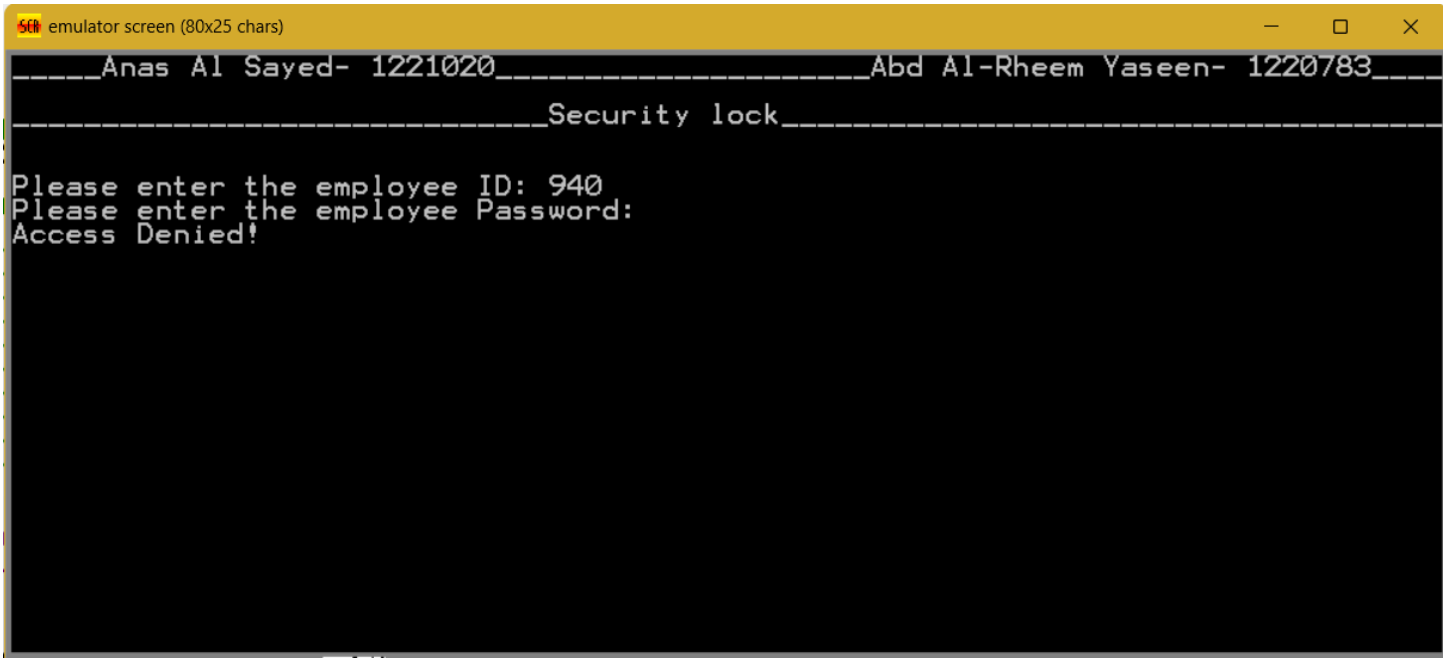

Figure 4: When user enter correct id and wrong password case

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).