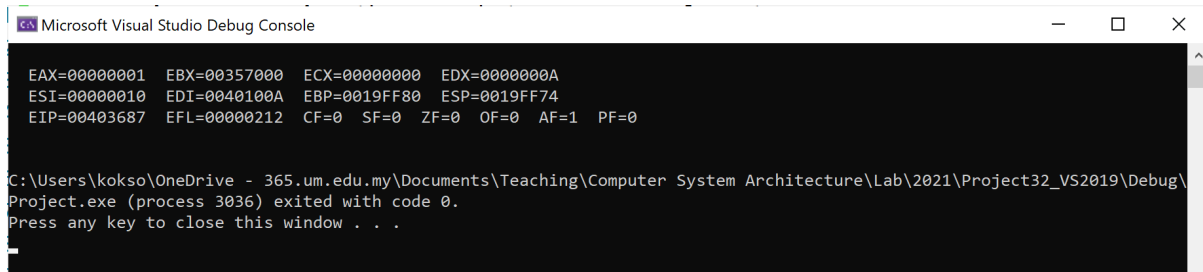


Lab Assignment

1. Write a program with indexed addressing that calculates the sum of all the gaps between array elements. The array elements are word type, sequenced in non-decreasing order. Use the value array {0,2,5,9,10}. These values has a gaps of 2,3,4, and 1 which the total of 10.

Example Output:



```
Microsoft Visual Studio Debug Console

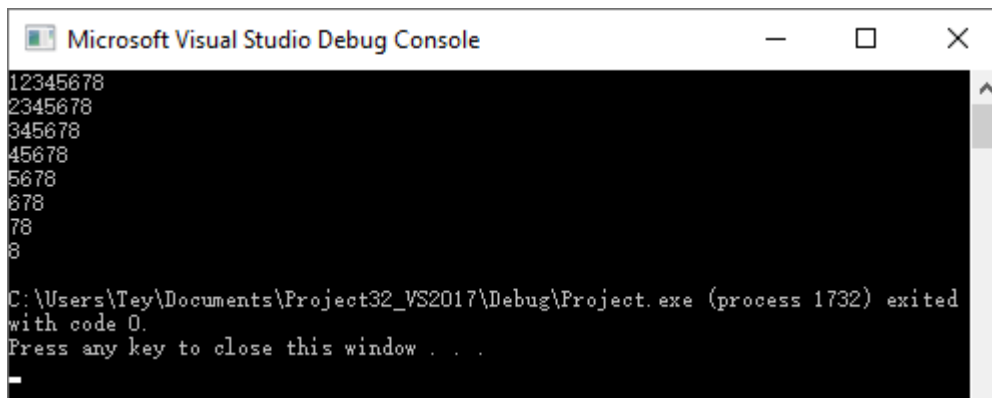
EAX=00000001  EBX=00357000  ECX=00000000  EDX=0000000A
ESI=00000010  EDI=0040100A  EBP=0019FF80  ESP=0019FF74
EIP=00403687  EFL=00000212  CF=0  SF=0  ZF=0  OF=0  AF=1  PF=0

C:\Users\kokso\OneDrive - 365.um.edu.my\Documents\Teaching\Computer System Architecture\Lab\2021\Project32_VS2019\Debug\
Project.exe (process 3036) exited with code 0.
Press any key to close this window . . .
```

You can also show it in the debug window.

2. Write an assembly code to generate a sequence of number when a number is initialized. Follow the below instruction:
 - a. Initialize a number which is 8.
 - b. Use all available register to perform an instruction that can generate a sequence of number 1,2,3,4,5,6,7,8,. The output should be like this:
1 2 3 4 5 6 7 8
2 3 4 5 6 7 8
3 4 5 6 7 8
4 5 6 7 8
5 6 7 8
6 7 8
7 8
8

Example Output:



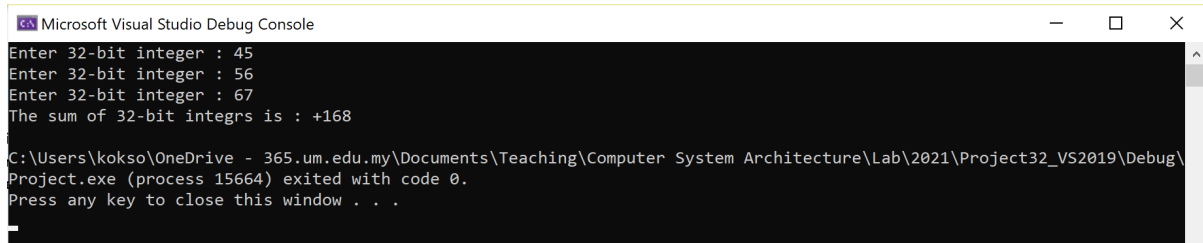
```
Microsoft Visual Studio Debug Console

12345678
2345678
345678
45678
5678
678
78
8

C:\Users\Tey\Documents\Project32_VS2017\Debug\Project.exe (process 1732) exited
with code 0.
Press any key to close this window . . .
```

3. Write a program that prompts the user for three 32-bit integers stores them in an array, calculates the sum of the array, and displays the sum on the screen.

Example Output:



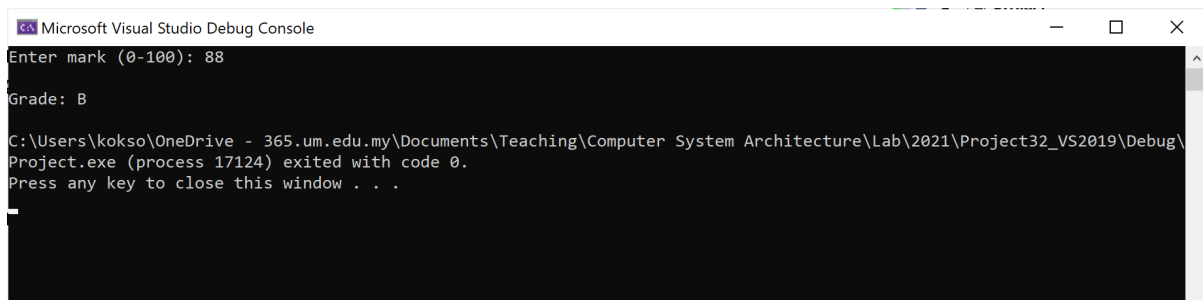
```
Microsoft Visual Studio Debug Console
Enter 32-bit integer : 45
Enter 32-bit integer : 56
Enter 32-bit integer : 67
The sum of 32-bit integers is : +168

C:\Users\kokso\OneDrive - 365.um.edu.my\Documents\Teaching\Computer System Architecture\Lab\2021\Project32_VS2019\Debug\
Project.exe (process 15664) exited with code 0.
Press any key to close this window . . .
```

4. Create a procedure that receives an integer value between 0 and 100. Then, display a single capital letter on the screen. The letter returned by the procedure should be according to the following ranges.

90 to 100 ---- A
80 to 89 ----- B
70 to 79 ----- C
60 to 69 ----- D
0 to 59 ----- F

Example Output:



```
Microsoft Visual Studio Debug Console
Enter mark (0-100): 88
Grade: B

C:\Users\kokso\OneDrive - 365.um.edu.my\Documents\Teaching\Computer System Architecture\Lab\2021\Project32_VS2019\Debug\
Project.exe (process 17124) exited with code 0.
Press any key to close this window . . .
```