Evan Hodges
2/5/2025

Comp 3350 - Homework 3: Data Declarations, Small Program

Question 1

Synchronous Memory Read Cycle

T_0: The processor places the address on the address bus.
T_1: The memory begins to access the location.
T_2: Memory output drivers put data on the data bus.
T_3: Processor latches the data, memory read cycle completes.

Question 2

I. Signed32 DWORD ? II. Signed16 WORD 84F1h III. Unsigned16 WORD 1477h
Unsigned32 DWORD ?
IV. ArchString BYTE "Architecture", 0 V. Array3 DWORD 0F5h, 127h, 0F456A689h
VI. NumberOfElements EQU (SIZEOF Array3 / TYPE Array3)
VII. PI EQU 3.1415
PerimeterOfCircle EQU PI * D

Question 3

Orange: CDh, Orange+1: ABh, Apple: CDh, Apple+1: ABh, Apple+2: 34h, Apple+3: 12h,
Mango[0]: 34h, Mango[0]+1: 12h, Mango[1]: 78h, Mango[1]+1: 56h

Question 4

```
; Add3.asm - Adds three unsigned word-sized integers.

.386
.model flat,stdcall
.stack 4096
ExitProcess proto, dwExitCode:dword

.data
    num1  WORD  5
    num2  WORD  6
    num3  WORD  7
```

2

```
.code
main proc

    movzx   eax, num1

    movzx   ebx, num2
    add     eax, ebx

    movzx   ebx, num3
    add     eax, ebx

    invoke  ExitProcess, 0

main endp
end main
```