COLEMAN UNIVERSITY

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STUDENT #: 77260

CLASS #: COM 390

8-12AM_____ **1-5PM**_____ **6-10PM** X

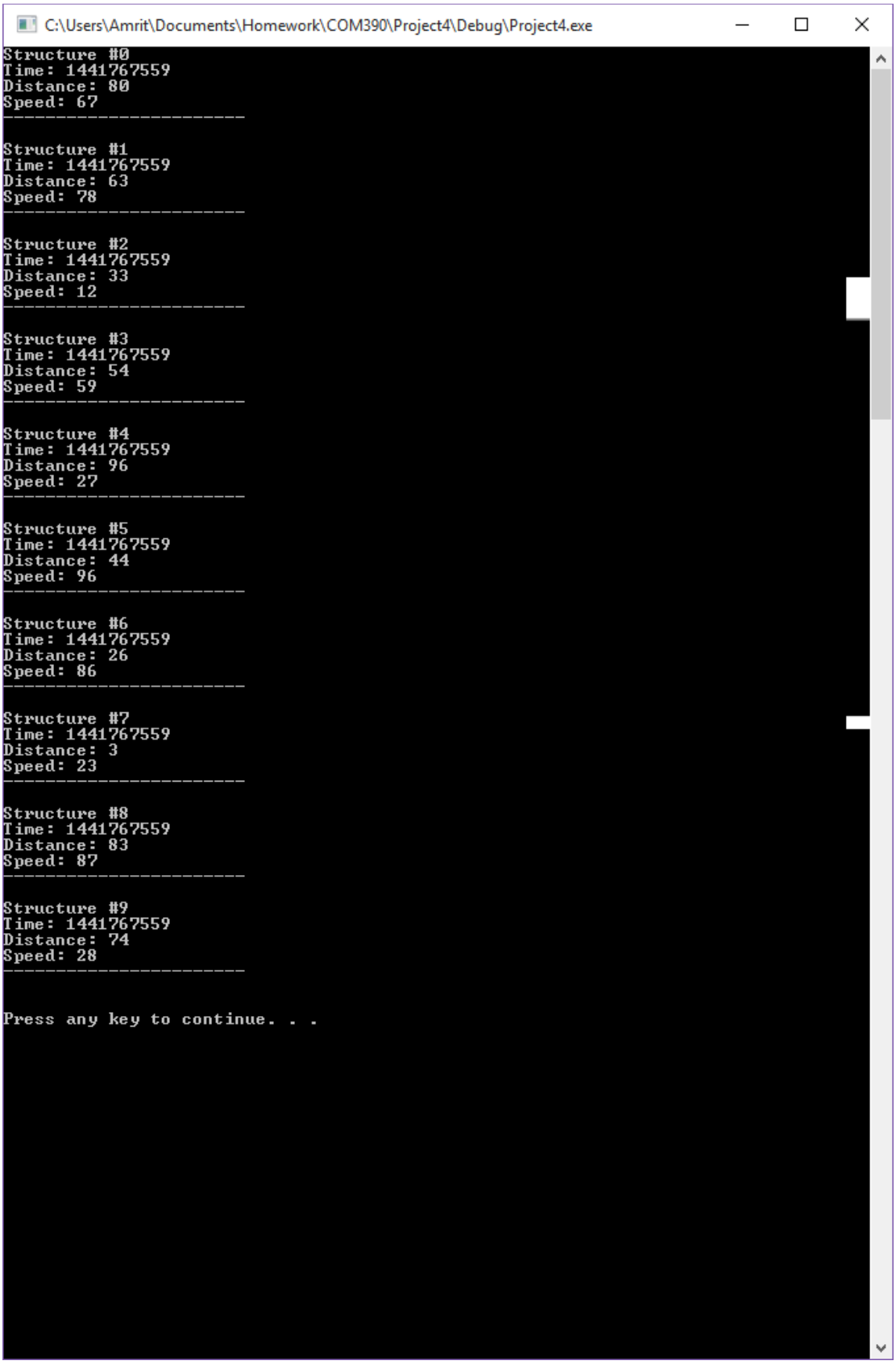
PROJECT: 4 - Struct/Loop

INSTRUCTOR: Scott Mayer

```c
/*****************************************************************************
 *  Author: Amrit Panesar
 * Project: 4 - Structs/Malloc
 *    Date: 09/08/2015
 * Purpose: Create a multidimensional array on the fly and populate its children
 *          Display the results.
 *****************************************************************************/

#include "Project4.h"

#define holdsize 10

TtimeStruct* holding;

int i, j ,k = 0;


void init() {
    srand(time(NULL));

    holding = (TtimeStruct*)malloc(sizeof(TtimeStruct) * holdsize);

    for (i = 0; i < holdsize; i++) {
        holding[i] = (TtimeStruct)malloc(sizeof(TravTimeStruct));
    }
}

void getInputs() {
    for (i = 0; i < holdsize; i++) {
        holding[i]->currentTimestamp = time(NULL);
        holding[i]->distance = rand()%100;
        holding[i]->speed = rand()%100;
    }
}

void printStructs() {
    for (i = 0; i < holdsize; i++) {
        printf("%s%d\n", "Structure #", i);
        printf("%s%d\n", "Time: ", holding[i]->currentTimestamp);
        printf("%s%d\n", "Distance: ", holding[i]->distance);
        printf("%s%d\n", "Speed: ", holding[i]->speed);
        printf("%s\n\n", "----------------------");
    }
}

int main(int argc, char **argv) {
    init();

    getInputs();
    printStructs();

    down();

```

```
54      pause();
55      return 0;
56  }
57
58  void down() {
59      for (i = 0; i < holdsize; i++) {
60          free(holding[i]);
61      }
62      free(holding);
63  }
64
```

```
1  /*****************************************************************************
2   *  Author: Amrit Panesar
3   * Project: 4 - Structs/Malloc
4   *    Date: 09/08/2015
5   * Purpose: Create a multidimensional array on the fly and populate its children
6   *          Display the results.
7   *****************************************************************************/
8
9  #include <conio.h>
10 #include <stdio.h>
11 #include <memory.h>
12 #include <malloc.h>
13 #include <time.h>
14 #include <stdlib.h>
15
16 #define true 1;
17 #define false 0;
18
19 typedef struct
20 {
21   int speed;
22   int distance;
23   time_t currentTimestamp;
24 } TravTimeStruct, *TtimeStruct;
25
26 #include "Helper.h"
27
```


C:\Users\Amrit\Documents\Homework\COM390\Project4\Debug\Project4.exe
Structure #0
Time: 1441767559
Distance: 80
Speed: 67
Structure #1
Time: 1441767559
Distance: 63
Speed: 78
Structure #2
Time: 1441767559
Distance: 33
Speed: 12
Structure #3
Time: 1441767559
Distance: 54
Speed: 59
Structure #4
Time: 1441767559
Distance: 96
Speed: 27
Structure #5
Time: 1441767559
Distance: 44
Speed: 96
Structure #6
Time: 1441767559
Distance: 26
Speed: 86
Structure #7
Time: 1441767559
Distance: 3
Speed: 23
Structure #8
Time: 1441767559
Distance: 83
Speed: 87
Structure #9
Time: 1441767559
Distance: 74
Speed: 28
Press any key to continue. . .