

DASF004: Basic and Practice in Programming

Lab 9: Pointer 2



In this lab ...

Using Practical Application of Pointer Variable

- What you need to submit in this lab (Lab #9):
 - » Lab Exercise #9 by Wednesday 11:59 pm
 - » Lab Assignment #9 by Tuesday 11:59 pm

Consider the following code:

```
#include <stdio.h>
int main(void)
     char *list[4] = {NULL}:
     char a[19] = "Three blind mices?";
     char b[19] = "Three blind mices!";
     char c[18] = "See how they run?";
     char d[18] = "See how they run!";
     list[0] = a; list[1] = b;
     list[2] = c; list[3] = d;
     printf("%s\n%s\n%s\n%s\n",list[0],list[1],list[2],list[3]);
```

list

```
list[0] — a[19]: Three blind mices?
list[1] — b[19]: Three blind mices!
list[2] — c[18]: See how they run?
list[3] — d[18]: See how they run!
```

C:\Users\Arthur Tang\Documents\Untitled1.exe

```
Three blind mices?
Three blind mices!
See how they run?
See how they run!
------
Process exited after 0.04802 seconds with return value 0
Press any key to continue . . . _
```

Modifying the list as show:

```
#include <stdio.h>
int main(void)
      char *list[4] = {NULL};
      char a[19] = "Three blind mices?";
      char b[19] = "Three blind mices!";
      char c[18] = "See how they run?";
      char d[18] = "See how they run!";
      list[0] = c; list[1] = d;
      list[2] = a; list[3] = b;
      printf("%s\n%s\n%s\n%s\n",list[0],list[1],list[2],list[3]);
```

list

```
list[0]
list[1]
b[19]: Three blind mices?
b[19]: Three blind mices!
c[18]: See how they run?
d[18]: See how they run!
```

C:\Users\Arthur Tang\Documents\Untitled1.exe

See how they run!

Three blind mices?

Three blind mices!

Process exited after 0.03183 seconds with return value 0

Press any key to continue . . .

The following code segment:

numbers[45] randomly.

- creates an integer array with 45 integers numbers[45]
- creates an integer pointer arrays with 6 pointers pointing to 0 initially Modify the code such that the integer pointer pick[0] arrays is pointing to 6 numbers of

```
#include <stdio.h>
int main(void)
    int numbers[45];
    for (int i=0; i<45; i++)
       numbers[i] = i+1;
    int * pick[6] = \{0\};
    // Add your code here!!!
    printf("%d %d %d %d %d", *pick[0], *pick[1], *pick[2], *pick[3], *pick[4], *pick[5]);
```

```
numbers[0]: 1
pick
                        numbers[1]: 2
                        numbers[2]: 3
pick[1]
                        numbers[3]: 4
            Point to 6
pick[2]
                        numbers[4]: 5
             numbers
pick[3]
             randomly
                        numbers[5]: 6
pick[4]
                        numbers[6]: 7
pick[5]
```

numbers[44]: 45

Lab Exercise #9

Submit your code to Lab Exercise #9 on iCampus!

Lab Exercise #9

```
D:\PortableApp\Dev-Cpp32\ConsolePauser.exe
43 12 10 37 38 21
Process exited normally.
Press any key to continue . . .
                 D:\PortableApp\Dev-Cpp32\ConsolePauser.exe
                29 32 45 19 26 18
                 Process exited normally.
                Press any key to continue . . . _
                                    D:\PortableApp\Dev-Cpp32\ConsolePauser.exe
                                     18 29 13 44 15
```

Process exited normally.

Press any key to continue . . .

```
■ D:\PortableApp\Dev-Cpp32\ConsolePauser.exe
6 38 22 33 5 38

Process exited normally.

Press any key to continue . . .
```

Lab Assignment #9: Palindrome

- Palindrome is a word which read the same forward and backward.
- For example: "123321", "racer", "a" are palindromes.
- In this assignment, you will write a program to ask the user to enter 10 integers, and store them into an integer array.
- You need to check if the 10 integers entered by the user is a palindrome or not using pointer.
- Your code should contains two pointers: *head and *tail.
- *head points to the first integer the user entered; while
 *tail points to the last integer the user entered.
- Your program will move these two pointers and check if the integer entered by the user is a palindrome or not, and display "yes" or "no".

C:\X\PortableApps\Dev-Cpp32\ConsolePauser.ex Enter number 0: 1 Enter number 1: 2 Enter number 2: 3 Enter number 3: 4 Enter number 4: 6 Enter number 5: 6 Enter number 6: 4 Enter number 7: 3 Enter number 8: 2 Enter number 9: 1 User entered: 1 2 3 4 6 6 4 3 2 1 YES!!! It is a palindrome! Process exited normally.

Press any key to continue . . .

```
Enter number 0: 1
Enter number 1: 2
Enter number 2: 3
Enter number 3: 4
Enter number 4: 5
Enter number 5: 6
Enter number 6: 4
Enter number 7: 3
Enter number 9: 1
User entered: 1 2 3 4 5 6 4 3 2 1
NO!!! It is not a palindrome!

Process exited normally.
Press any key to continue . . . _
```

Lab Assignment #9:

Submit your source code on iCampus before Tuesday 11:59 pm