**Lab Manual 1 – Pointers, Filing and Debugging**

**Important Note:**

* **You may find the syntax to accomplish these exercises from lecture demo.**
* **Names of your submission files should start with your roll number throughout this semester.**
* **Make sure that the interface of your program is user friendly i.e. properly display information.**
* **Properly follow the coding standards.**

**Exercise – Debugging**

See the following piece of code and write its output by debugging the code. Keys for debugging are listed below.

| int myFunction ()  {  int numbers[5];  int \* p;  p = numbers;  \*p = 10;  p++;  \*p = 20;  p = &numbers[2];  \*p = 30;  p = numbers + 3;  \*p = 40;  p = numbers;  \*(p+4) = 50;  for (int n=0; n<5; n++)  cout << numbers[n] << ", ";  return 0;  }  Void main()  {  myFunction();  } |
| --- |

Write the address of array named ‘numbers’

| 0 | 1 | 2 | 3 | 4 |
| --- | --- | --- | --- | --- |
| 0x5ffe40 | 0x5ffe44 | 0x5ffe48 | 0x5ffe4c | 0x5ffe50 |

| Sr.No | code | Value of p | Address of p | Value of array ‘numbers’ | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | [0] | [1] | [2] | [3] | [4] |
| 1 | int numbers[5]; | 0x2 | 0xffe60 | -463264624 | 32759 | -463259971 | 32759 | 2106265384 |
| 2 | int \* p=numbers; | 0x5ffe40 | 0xffe60 | -463264624 | 32759 | -463259971 | 32759 | 2106265384 |
| 3 | \*p = 10; | 0x5ffe40 | 0xffe60 | 10 | 32759 | -463259971 | 32759 | 2106265384 |
| 4 | p++; | 0x5ffe44 | 0xffe60 | 10 | 32759 | -463259971 | 32759 | 2106265384 |
| 5 | \*p = 20; | 0x5ffe44 | 0xffe60 | 10 | 20 | -463259971 | 32759 | 2106265384 |
| 6 | p = &numbers[2]; | 0x5ffe48 | 0xffe60 | 10 | 20 | -463259971 | 32759 | 2106265384 |
| 7 | \*p = 30; | 0x5ffe48 | 0xffe60 | 10 | 20 | 30 | 32759 | 2106265384 |
| 8 | p = numbers + 3; | 0x5ffe4c | 0xffe60 | 10 | 20 | 30 | 32759 | 2106265384 |
| 9 | \*p = 40; | 0x5ffe4c | 0xffe60 | 10 | 20 | 30 | 40 | 2106265384 |
| 10 | p = numbers; | 0x5ffe40 | 0xffe60 | 10 | 20 | 30 | 40 | 2106265384 |
| 11 | \*(p+4) = 50; | 0x5ffe40 | 0xffe60 | 10 | 20 | 30 | 40 | 50 |