EL-GY 6483

**Name:**  Dhairya Shah (ds6969) N13380743

1. Using the variable x, give definitions for the following:
   1. An integer
   2. A pointer to an integer
   3. An array of 10 integers
   4. An array of 10 pointers to integers

**Solution:**

a) int x

b) int \*x

c) int x[10]

d) int \*x[10]

1. What is the output of the following C program?

*#include <stdio.h>*

int main ()

{

int vals[5] = {4, 3, 2, 5, 1}; int i;

for (i=0; i<=5; i++) { printf("vals[%d]=%d\n", i, vals[i]);

}

return 0;

}

**Solution:**

vals[0]=4

vals[1]=3

vals[2]=2

vals[3]=5

vals[4]=1

vals[5]=32764 => Garbage value because index out of array length

EL-GY 6483

1. (a) What is the output of the following C program?

*# include <stdio.h>*

void fun(int y)

{

y = 30;

}

int main()

{

int y = 20; fun(y); printf("%d", y); return 0;

}

**Solution:**

**y=20**

1. In the program above, is the variable y in main() stored on the stack or on the heap?

**Solution:**

Y is stored on the **stack** since it is a local variable.

1. What is the output of this C program?

*# include <stdio.h>*

void fun(int \*y)

{

\*y = 30;

}

int main()

{

int y = 20; fun(&y); printf("%d", y); return 0;

}

Solution:

**y=30**

1. In the program above, is the variable y in main() stored on the stack or on the heap?

**Solution:**

Y is stored on the **stack** since it is a local variable.

1. True or false: &y in main() and y in fun() have the same value.

**Solution:**

Given statement is true.