Homework 5

Question:

```c
#include<stdio.h>
void fun(int n){
    printf("%d",n);
    for (int i=0; i<2; i++){
        if(n>0) fun(n-1);

    }
}



int main(){

    fun(2);
}
```

Output of the program—
A. 210
B. 2100100
C. 210210
D. 2121

Question:

```c
#include<stdio.h>

void x(int n) {
  for (int i = 0; i < n; i++) {
    printf("%d", n);
    x(n - 1);
  }
}

int main() {
  x(2);
}
```

Output of the program—
A. 210
B. 2100100
C. 210210
D. 2121

Question: What will be output of this code ?

```c
#include<stdio.h>

void my_fun(int x, int *y, int *z) {
    x = *y + 3;
    *y = x + *z;
    *z = *y + x;
}


int main() {

    int a = 1, b = 2, c = 3;
    my_fun(a, &b, &c);
    printf("%d %d %d", a, b, c);
    return 0;

}
```

Question:

Consider the following C code. After each line, write down the contents of *x* and *y*.
If at any point you cannot determine the contents, write "unknown".

```c
int main(void)
{
    int  x = 5, y = 15;
    int  * p1,  * p2;

    p1 = &x;            // x contains _____5_____; y contains _____15_____
    p2 = &y;            // x contains _____; y contains _____
    *p1 = 10;           // x contains _____; y contains _____
    *p2 = *p1;          // x contains _____; y contains _____
    p1 = p2;            // x contains _____; y contains _____
    *p1 = *p2+10;       // x contains _____; y contains _____

}
```

Question: What will be output of this code ?

```c
int foo(int i)
{

    i = i+2;
    return i;


}
int main()
{

    int a = 2;
    int *b = &a;
    foo(*b);
    foo(*b);
    printf("%d", a);

}
```

A. 2
B. 4
C. Error since we can not pass pointer in foo() function
D. 6

Question:

```c
#include<stdio.h>
void addAbs(int, int, int* );
int main() {



    int a;
    addAbs(1, 2, &a);
    printf("a = %d", a);
}
void addAbs(int a, int b, int *sum) {
  ( *sum) = a + b;
  if (( *sum) < 0) {
    ( *sum) = -( *sum);
  }
return;
}
```

A. 3

B. -3

C. Error since function `addAbs()` is void type and has return statement

D. 0

Question:

```c
#include<stdio.h>
void main()
{
    int i = 5, j = 2;
    printf("%d, %d\n", i, j);
    testPass(i, & j);
    printf("%d, %d\n", i, j);
}
void testPass(int x, int *y)
{

    x++;
    (*y)++;

    printf("%d, %d\n", x, *y);

}
```