1. What is the output of the following code snippet?

```c
#include <stdio.h>
int main() {
int x = 5;
int y = (x++) + (++x) - (--x) + (x--);
printf("%d", y);
return 0;

}
```

2. Explain the concept of recursion in C. Provide an example.
3. What is the purpose of the volatile keyword in C?
4. Describe the difference between a structure and a union in C.
5. What is the significance of the const keyword in C? How does it relate to pointer variables?
6. Write a code snippet to reverse a linked list in C.
7. Explain the concept of function pointers in C. Provide an example.
8. What is the output of the following code snippet?

```c
#include <stdio.h>

int main() {
   int arr[] = {1, 2, 3, 4, 5};
   int *ptr = (int*)(&arr + 1);

   printf("%d", *(ptr - 1));
   return 0;
}
```