1. Write a C program to find the transpose of a 2D array.
2. Explain compile time and run time initialization of 1D array.
3. What is a structure? How is it different from an array and union?
4. Give syntax for declaration, definition and access of structure.
5. Explain the following functions with syntax with respect to files i. putc() ii. fscanf() iii. ftell() iv. fprintf() v. fopen().
6. Explain the different modes of operation for files.
7. What is a Pointer and explain the syntax of the following:
    i. Pointer declaration
    ii. Pointer initialization

8. Predict the output:

```c
#include <stdio.h>
#include<conio.h>

void main()
{
    int a = 1000;
    int b = 200;
    int c = 30;

    printf("Value of variable a is: %d", a);
    printf("\nAddress of variable a is: %d", &a);

    printf("\nValue of variable b is: %d", b);
    printf("\nAddress of variable b is: %d", &b);

    printf("\nValue of variable c is: %d", c);
    printf("\nAddress of variable c is: %d", &c);
    getch();
}
```

```c
#include <stdio.h>
#include<conio.h>
void main()
{
    int *p;
    int var = 10;
    p= &var;

    printf("Value of variable var is: %d", var);
    printf("\nValue of variable var is: %d", *p);
    printf("\nAddress of variable var is: %u", &var);
    printf("\nAddress of variable var is: %u", p);
    printf("\nAddress of pointer p is: %u", &p);
    getch();
}
```

```c
#include<stdio.h>
#include<conio.h>

void main()
{
        int *iptr, var1,var2;
        iptr= &var1;
        *iptr=25;
        *iptr+=10;
        printf("variable var1 contains: %i\n",var1);
        var2=*iptr;
        printf("variable var2 contains: %i\n",var2);
    iptr=&var2;
        *iptr+=20;
        printf("variable var2 now contains: %i\n",var2);
        getch();
}
```