1. Find outputs of the following code. **[Run this code using any IDE multiple times and analyse the outputs]**

```c
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <pthread.h>

void *t_func(void *arg);
int var=0;
int t_id[]={1,2};
int main(){
    pthread_t t1;
    pthread_t t2;
    int a1[]={t_id[0],5};
    int a2[]={t_id[1],3};
    pthread_create(&t1,NULL,t_func,(void *)a1);
    pthread_join(t1,NULL);
    pthread_create(&t2,NULL,t_func,(void *)a2);
    pthread_join(t2,NULL);
    printf("Value of var after operations of threads: %d\n",var);

    return 0;
}
void *t_func(void* arg){
        int* x= arg;
        if(x[0]==1){
            printf("Entered in Thread :%d\n",x[0]);
            var+=x[1];
            printf("Value of var after the operation of Thread %d: %d\n",x[0],var);
            printf("Operation Done by Thread %d...\n",x[0]);
        }
        else{
            printf("Entered in Thread :%d\n",x[0]);
            var-=x[1];
            printf("Value of var after the operation of Thread %d: %d\n",x[0],var);
            printf("Operation Done by Thread %d...\n",x[0]);
        }

}
```

2. Find outputs of the following code. **[Run this code using any IDE multiple times and analyse the outputs]**

```c
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <pthread.h>
int t_id[]={1,2,3};
int var=50;
void *t_func(int *v);
int main(){
        pthread_t t[3];
        for(int i=0;i<3;i++){
            pthread_create(&t[i],NULL,(void *)t_func,&t_id[i]);
            pthread_join(t[i],NULL);
        }
        printf("Final value of var: %d\n",var);
        return 0;
}
void *t_func(int *v){
    if(*v==0){
        printf("Entered in Thread %d...\n",*v);
        for(int i=0;i<3;i++){
                var+=5;
                printf("Thread %d modified value %d\n",*v,var);
        }
        printf("Modification done by Thread %d, value %d\n",*v,var);
    }
    else if(*v==1){
        printf("Entered in Thread %d...\n",*v);
        for(int i=0;i<3;i++){
                var-=4;
                printf("Thread %d modified value %d\n",*v,var);
        }
        printf("Modification done by Thread %d, value %d\n",*v,var);
    }
    else{
        printf("Entered in Thread %d...\n",*v);
        for(int i=0;i<3;i++){
                var*=2;
                printf("Thread %d modified value %d\n",*v,var);
        }
        printf("Modification done by Thread %d, value %d\n",*v,var);
    }
}
```

3. Find outputs of the following code. **[Run this code using any IDE multiple times and analyse the outputs]**

```c
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <pthread.h>
int t_id[]={1,2,3};
int var=50;
void *t_func(int *v);
int main(){
        pthread_t t[3];
        for(int i=0;i<3;i++){
            pthread_create(&t[i],NULL,(void *)t_func,&t_id[i]);
        }
        for(int i=0;i<3;i++){
            pthread_join(t[i],NULL);
        }
        printf("Final value of var: %d\n",var);
        return 0;
}
void *t_func(int *v){
    if(*v==0){
        printf("Entered in Thread %d...\n",*v);
        for(int i=0;i<3;i++){
                var+=5;
                printf("Thread %d modified value %d\n",*v,var);
        }
        printf("Modification done by Thread %d, value %d\n",*v,var);
    }
    else if(*v==1){
        printf("Entered in Thread %d...\n",*v);
        for(int i=0;i<3;i++){
                var-=4;
                printf("Thread %d modified value %d\n",*v,var);
        }
        printf("Modification done by Thread %d, value %d\n",*v,var);
    }
    else{
        printf("Entered in Thread %d...\n",*v);
        for(int i=0;i<3;i++){
                    var*=2;
                printf("Thread %d modified value %d\n",*v,var);
        }
        printf("Modification done by Thread %d, value %d\n",*v,var);
    }
}
```