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

```
#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]**

```
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <pthread.h>
int t_id[]={1,2,3};
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]**

```
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <pthread.h>
int t_id[]={1,2,3};
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);
    }
}
```