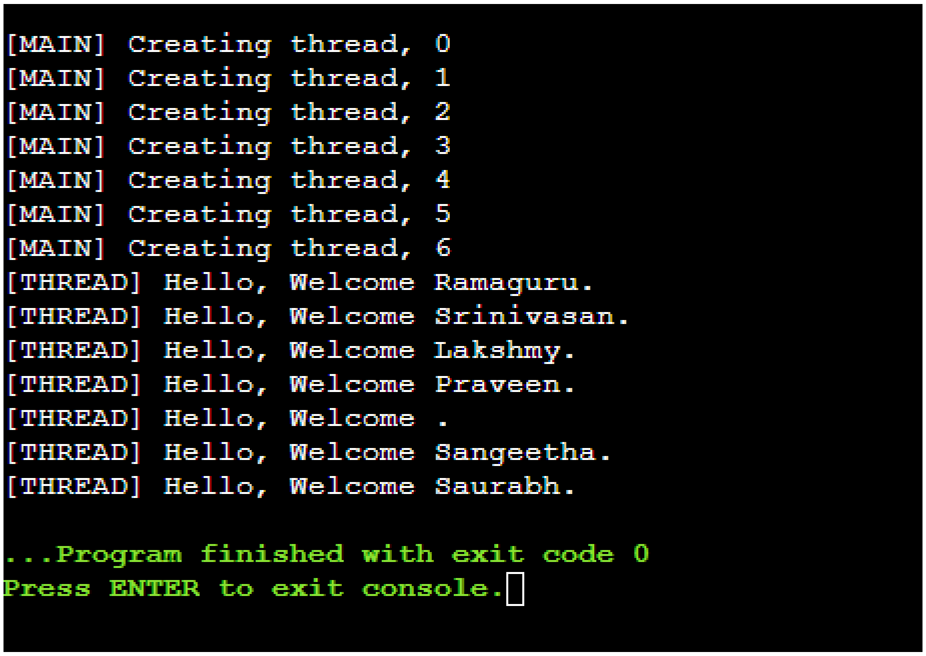
G.Hemesh sai

Os lab

```
1. /*
@Author: Ramaguru Radhakrishnan
@Date: 21 - Dec - 2022
@Description: Creation and Execution of a simple thread
*/

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

// printWelcomeMessage will be called when the Thread is created in the main function
// which takes string as an argument
void *printWelcomeMessage(void *names) {

   sleep(2);
   char *name = (char *)names;
   printf("\n[THREAD] Hello, Welcome %s.", name);
   pthread_exit(NULL);

}

int main () {

   // thread defintion
   pthread_t threads[5];
```

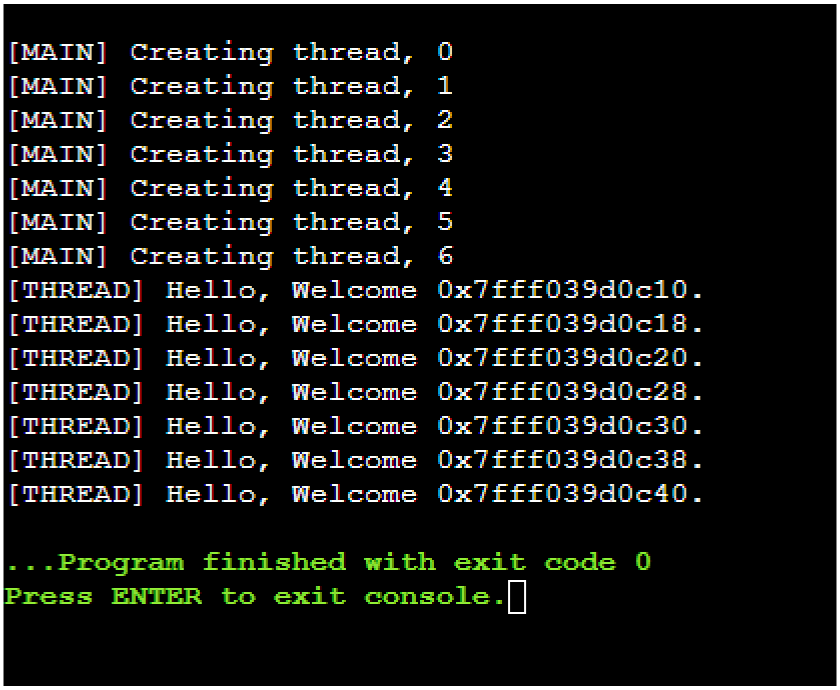
```
  // parameter to be passed to the called function - printWelcomeMessage
  char names[10][15] =
{"Amritha","Praveen","Saurabh","Sangeetha","Lakshmy","Srinivasan","Ramaguru"};

  int result;

  for(int i = 0; i < 7; i++ ) {

    printf("\n[MAIN] Creating thread, %d", i);

    // Creating the threading and thus calling the function with parameter passed to it
    result = pthread_create(&threads[i], NULL, printWelcomeMessage, (void *)names[i]);

    if (result) {

      printf("Error in creating thread, %d ", result);
      exit(-1);
    }

  }

  // Exit the thread
  pthread_exit(NULL);
}
```



```
[MAIN] Creating thread, 0
[MAIN] Creating thread, 1
[MAIN] Creating thread, 2
[MAIN] Creating thread, 3
[MAIN] Creating thread, 4
[MAIN] Creating thread, 5
[MAIN] Creating thread, 6
[THREAD] Hello, Welcome Ramaguru.
[THREAD] Hello, Welcome Srinivasan.
[THREAD] Hello, Welcome Lakshmy.
[THREAD] Hello, Welcome Praveen.
[THREAD] Hello, Welcome .
[THREAD] Hello, Welcome Sangeetha.
[THREAD] Hello, Welcome Saurabh.

...Program finished with exit code 0
Press ENTER to exit console.
```

2. #include <pthread.h>

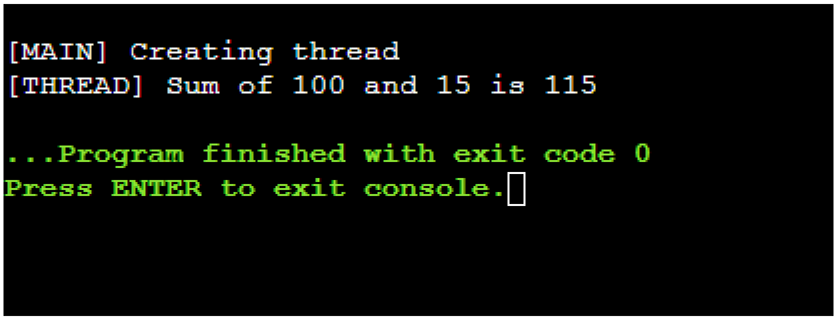
```
#include <stdlib.h>

#include <stdio.h>

#include <unistd.h>


// printWelcomeMessage will be called when the Thread is created in the main function

// which takes string as an argument

void *printWelcomeMessage(void *tid) {


  sleep(1);

  //char *name = (char *)names;

  printf("\n[THREAD] Hello, Welcome %p.", tid);

  pthread_exit(NULL);


}


int main () {
  // thread defintion
  pthread_t threads[6];

  // parameter to be passed to the called function - printWelcomeMessage
  char names[10][15] = {"Amritha","Praveen","Saurabh","Sangeetha","Lakshmy","Srinivasan","Ramaguru"};
  long tid = (long)threads;
  int result;

  for(int i = 0; i < 7; i++ ) {

    printf("\n[MAIN] Creating thread, %d", i);

    // Creating the threading and thus calling the function with parameter passed to it
    result = pthread_create(&threads[i], NULL, printWelcomeMessage, (void *)&threads[i]);

    if (result) {

      printf("Error in creating thread, %d ", result);
      exit(-1);
    }

  }

  // Exit the thread
  pthread_exit(NULL);
}
```



```
[MAIN] Creating thread, 0
[MAIN] Creating thread, 1
[MAIN] Creating thread, 2
[MAIN] Creating thread, 3
[MAIN] Creating thread, 4
[MAIN] Creating thread, 5
[MAIN] Creating thread, 6
[THREAD] Hello, Welcome 0x7fff039d0c10.
[THREAD] Hello, Welcome 0x7fff039d0c18.
[THREAD] Hello, Welcome 0x7fff039d0c20.
[THREAD] Hello, Welcome 0x7fff039d0c28.
[THREAD] Hello, Welcome 0x7fff039d0c30.
[THREAD] Hello, Welcome 0x7fff039d0c38.
[THREAD] Hello, Welcome 0x7fff039d0c40.

...Program finished with exit code 0
Press ENTER to exit console.
```

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

  struct variable_add {
        int a;
        int b;
  };

void *add(void *sum) {

  sleep(1);
  struct variable_add *s= sum;
  printf("\n[THREAD] Sum of %d and %d is %d",s->a,s->b,s->a+s->b);
  pthread_exit(NULL);
```

```
}


int main () {

  // thread defintion
  pthread_t threads;


  int result;

  struct variable_add s;
  s.a=100;
  s.b=15;


    printf("\n[MAIN] Creating thread");

    result = pthread_create(&threads, NULL, add,&s);

    if (result) {

      printf("Error in creating thread, %d ", result);
      exit(-1);
    }


  pthread_exit(NULL);
  return 0;

}
```



```
[MAIN] Creating thread
[THREAD] Sum of 100 and 15 is 115

...Program finished with exit code 0
Press ENTER to exit console.
```