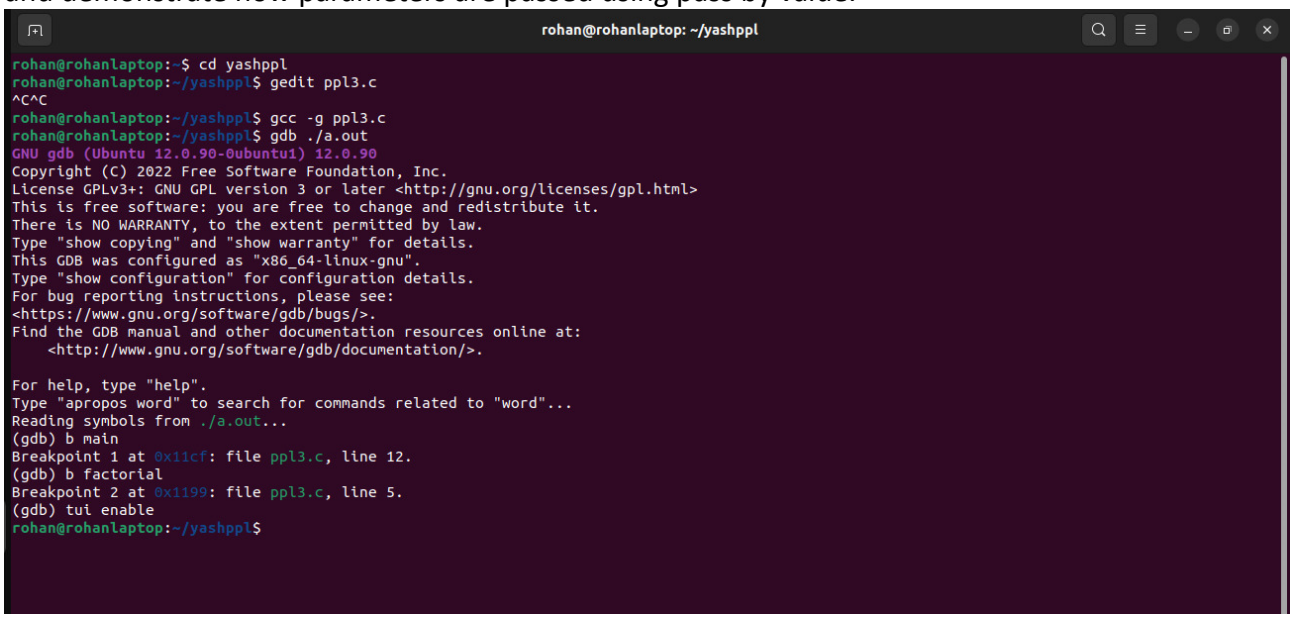
642303003

Assignment No:03

Aim: Use gdb to read assembly code for C program to find factorial of a number with recursion and demonstrate how parameters are passed using pass by value.



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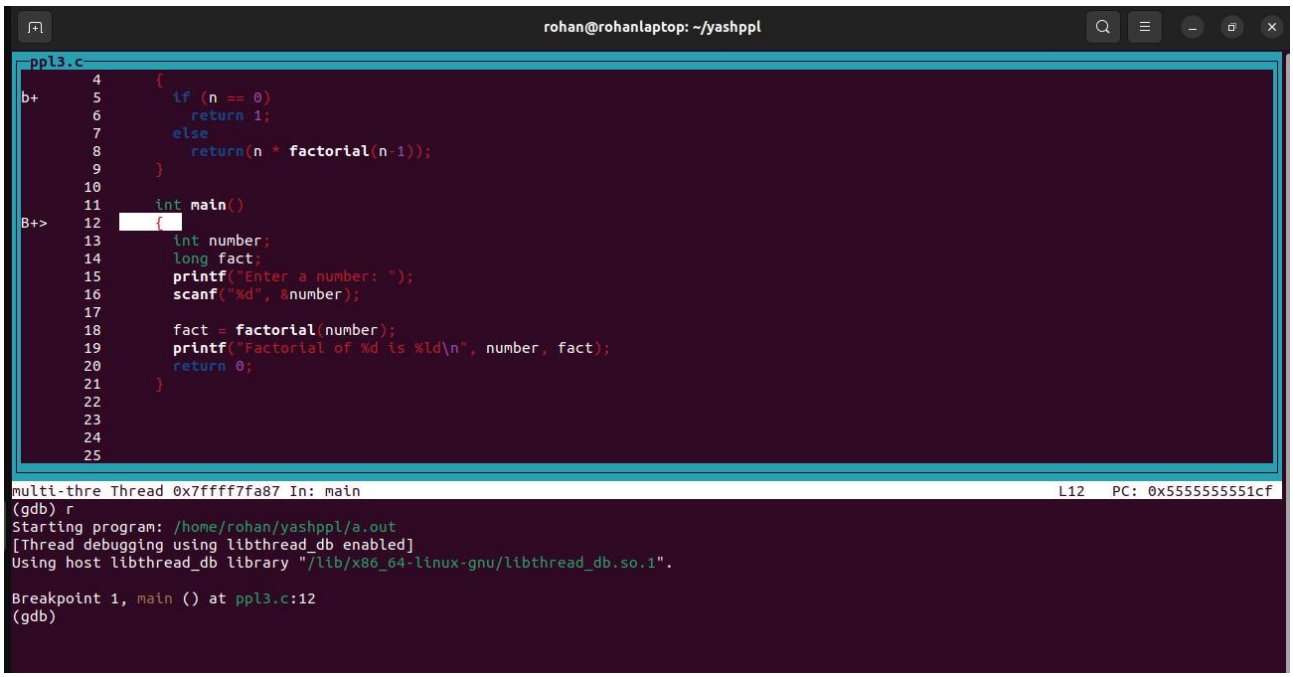
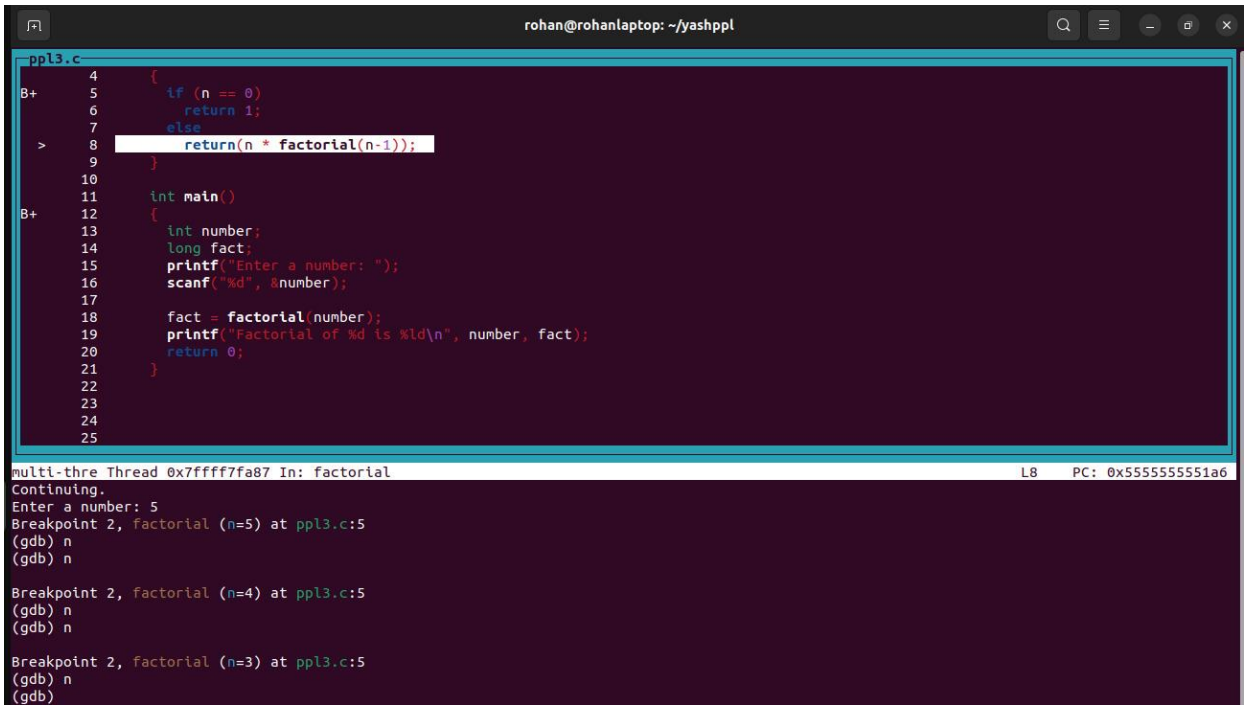

rohan@rohanlaptop: ~/yashppl
ppl3.c
4 {
b+ 5 if (n == 0)
6 return 1;
7 else
8 return(n * factorial(n-1));
9 }
10
11 int main()
B+> 12 {
13 int number;
14 long fact;
15 printf("Enter a number: ");
16 scanf("%d", &number);
17
18 fact = factorial(number);
19 printf("Factorial of %d is %ld\n", number, fact);
20 return 0;
21 }
22
23
24
25
multi-thre Thread 0x7ffff7fa87 In: main L12 PC: 0x5555555551cf
(gdb) r
Starting program: /home/rohan/yashppl/a.out
[Thread debugging using libthread_db enabled]
Using host libthread_db library "/lib/x86_64-linux-gnu/libthread_db.so.1".
Breakpoint 1, main () at ppl3.c:12
(gdb)


rohan@rohanlaptop: ~/yashppl
ppl3.c
4 {
B+ 5 if (n == 0)
6 return 1;
7 else
> 8 return(n * factorial(n-1));
9 }
10
11 int main()
B+ 12 {
13 int number;
14 long fact;
15 printf("Enter a number: ");
16 scanf("%d", &number);
17
18 fact = factorial(number);
19 printf("Factorial of %d is %ld\n", number, fact);
20 return 0;
21 }
22
23
24
25
multi-thre Thread 0x7ffff7fa87 In: factorial L8 PC: 0x5555555551a6
Continuing.
Enter a number: 5
Breakpoint 2, factorial (n=5) at ppl3.c:5
(gdb) n
(gdb) n
Breakpoint 2, factorial (n=4) at ppl3.c:5
(gdb) n
(gdb) n
Breakpoint 2, factorial (n=3) at ppl3.c:5
(gdb) n
(gdb)

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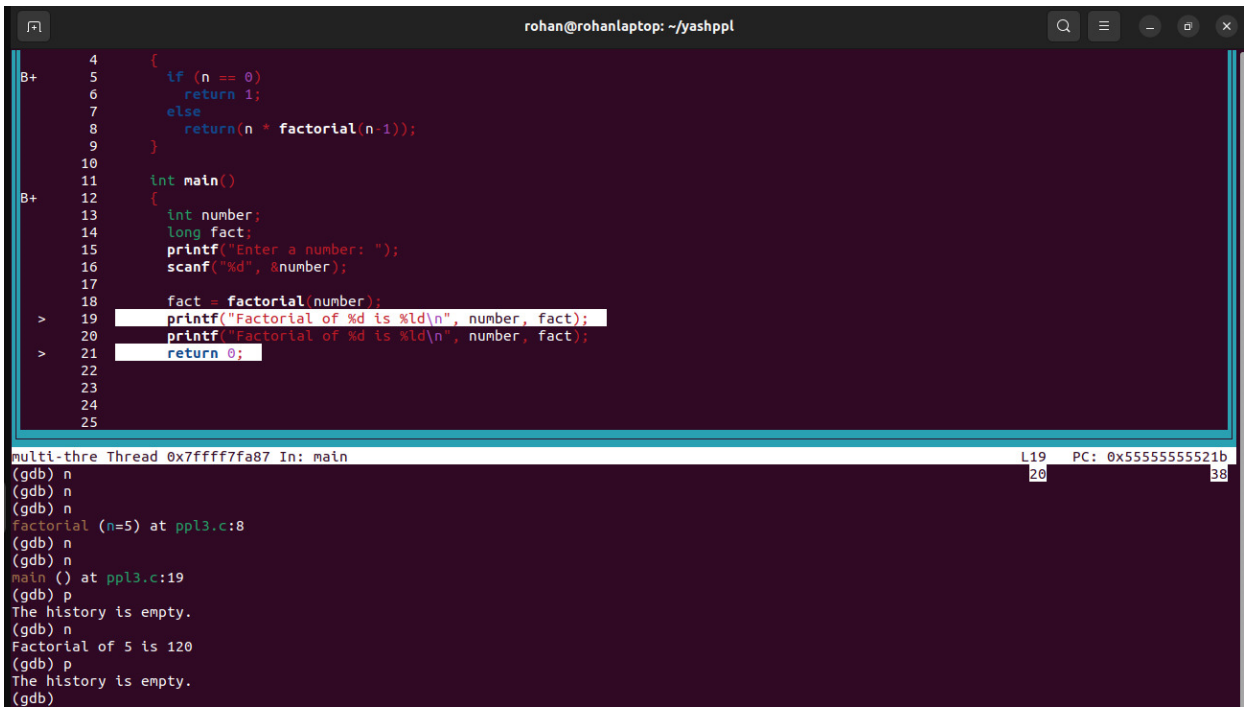
rohan@rohanlaptop: ~/yashppl
4 {
B+ 5 if (n == 0)
6 return 1;
7 else
8 return(n * factorial(n-1));
9 }
10
11 int main()
B+ 12 {
13 int number;
14 long fact;
15 printf("Enter a number: ");
16 scanf("%d", &number);
17
18 fact = factorial(number);
> 19 printf("Factorial of %d is %ld\n", number, fact);
20 printf("Factorial of %d is %ld\n", number, fact);
> 21 return 0;
22
23
24
25
multi-thre Thread 0x7ffff7fa87 In: main L19 PC: 0x55555555521b
(gdb) n
(gdb) n
(gdb) n
factorial (n=5) at ppl3.c:8
(gdb) n
(gdb) n
main () at ppl3.c:19
(gdb) p
The history is empty.
(gdb) n
Factorial of 5 is 120
(gdb) p
The history is empty.
(gdb)