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Subject: Operating System

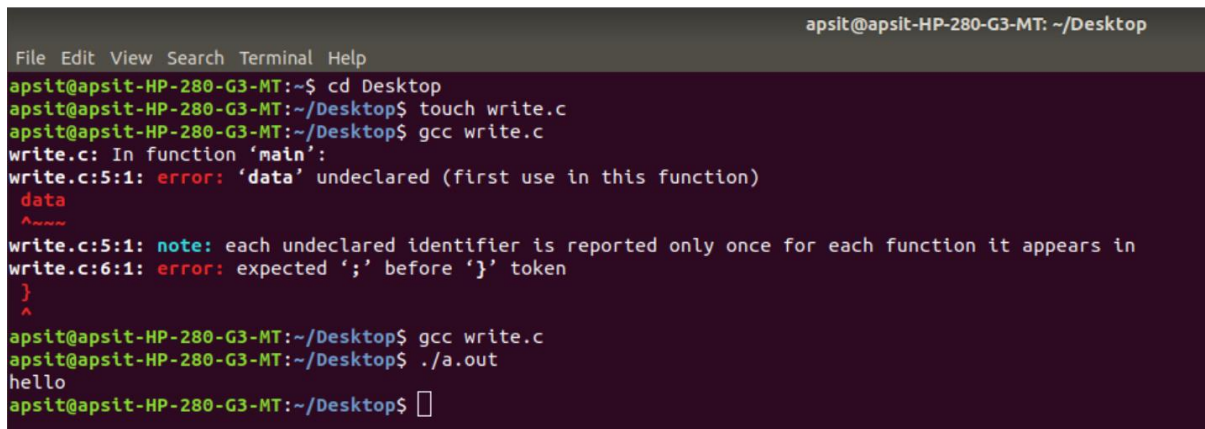
Experiment 3

PROGRAM:

```
#include <unistd.h>

int main()
{
write(1,"hello\n",6); //1 is the file descriptor, "hello\n" is the data, 6 is the count
of characters in data
}
```

OUTPUT:



```
apsit@apsit-HP-280-G3-MT: ~/Desktop
File Edit View Search Terminal Help
apsit@apsit-HP-280-G3-MT:~$ cd Desktop
apsit@apsit-HP-280-G3-MT:~/Desktop$ touch write.c
apsit@apsit-HP-280-G3-MT:~/Desktop$ gcc write.c
write.c: In function 'main':
write.c:5:1: error: 'data' undeclared (first use in this function)
  data
  ^~~~~
write.c:5:1: note: each undeclared identifier is reported only once for each function it appears in
write.c:6:1: error: expected ';' before '}' token
  }
  ^
apsit@apsit-HP-280-G3-MT:~/Desktop$ gcc write.c
apsit@apsit-HP-280-G3-MT:~/Desktop$ ./a.out
hello
apsit@apsit-HP-280-G3-MT:~/Desktop$
```

Program:

```
#include <stdio.h>
#include <unistd.h>
int main()
{
int count;
count=write(1,"hello\n",6);
printf("Total bytes written: %d\n",count);
}
```

OUTPUT:

```
File Edit View Search Terminal Help
apsit@apsit-HP-280-G3-MT:~/Desktop$ gcc write.c
apsit@apsit-HP-280-G3-MT:~/Desktop$ ./a.out
hello
apsit@apsit-HP-280-G3-MT:~/Desktop$ gcc write.c
apsit@apsit-HP-280-G3-MT:~/Desktop$ ./a.out
hello
Total bytes written: 6
apsit@apsit-HP-280-G3-MT:~/Desktop$
```

Program:

```
#include <unistd.h>
```

```
int main()
```

```
{
```

```
char buff[20];
```

```
read(0,buff,10); //read 10 bytes from standard input device(keyboard), store in
//buffer (buff)
```

```
write(1,buff,10); //print 10 bytes from the buffer on the screen }
```

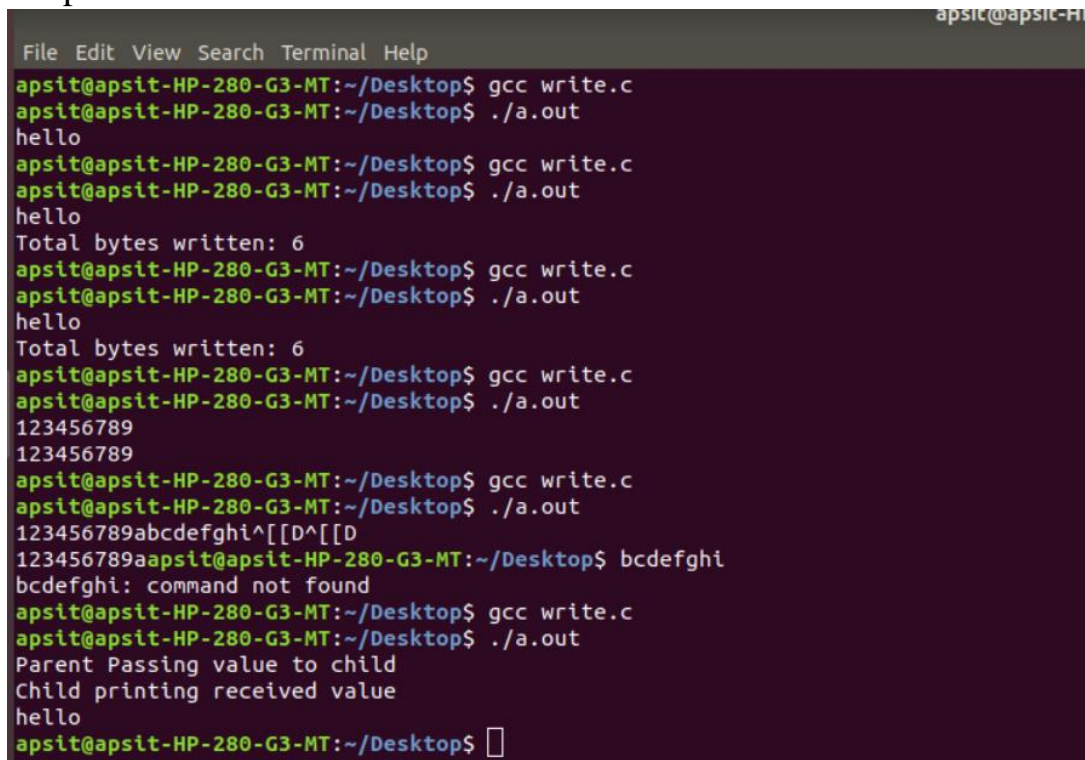
Output:

```
apsit@apsit-HP-280-G3-MT:~/Desktop$ gcc write.c
apsit@apsit-HP-280-G3-MT:~/Desktop$ ./a.out
123456789
123456789
apsit@apsit-HP-280-G3-MT:~/Desktop$ gcc write.c
apsit@apsit-HP-280-G3-MT:~/Desktop$ ./a.out
123456789abcdefghi^[[D^[[D
123456789aapsit@apsit-HP-280-G3-MT:~/Desktop$ bcdefghi
bcdefghi: command not found
apsit@apsit-HP-280-G3-MT:~/Desktop$
```

Program:

```
#include<stdio.h>
#include <unistd.h>
#include <signal.h>
#include <stdlib.h>
int main()
{
int fd[2],n;
char buffer[100];
pid_t p; pipe(fd); //creates a unidirectional pipe with two end fd[0] and fd[1]
p=fork();
if(p>0) //parent
{
printf("Parent Passing value to child\n"); write(fd[1],"hello\n",6); //fd[1] is the
write end of the pipe
} else // child
{ printf("Child printing received value\n"); n=read(fd[0],buffer,100); //fd[0] is
the read end of the pipe write(1,buffer,n);
}
}
```

Output:

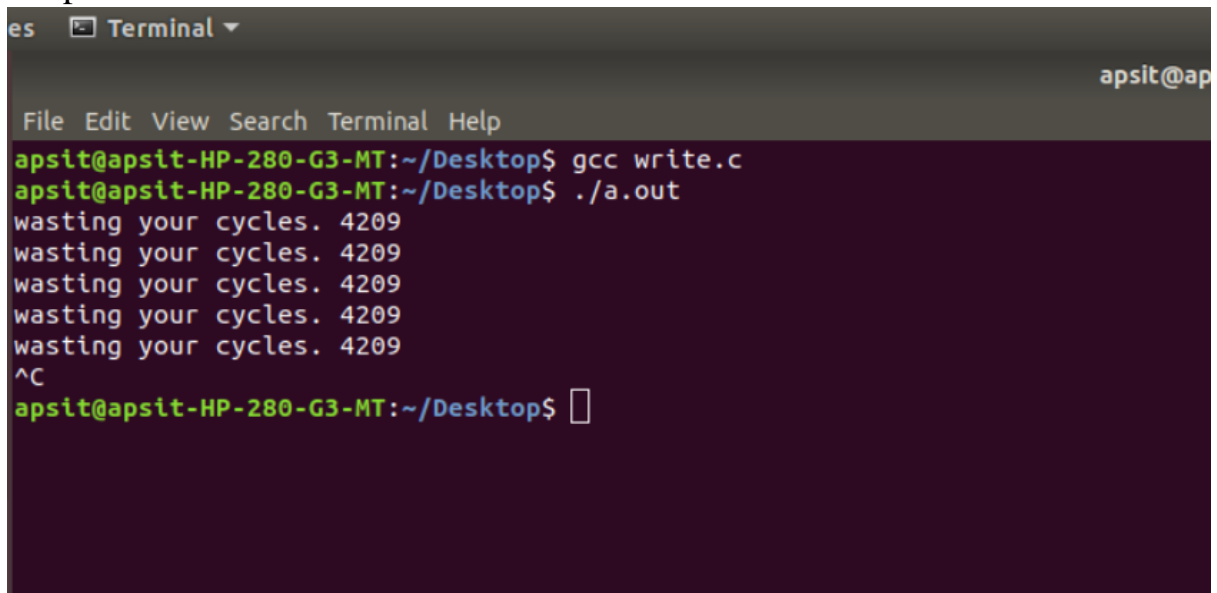


```
apsit@apsit-HP-280-G3-MT:~/Desktop$ gcc write.c
apsit@apsit-HP-280-G3-MT:~/Desktop$ ./a.out
hello
apsit@apsit-HP-280-G3-MT:~/Desktop$ gcc write.c
apsit@apsit-HP-280-G3-MT:~/Desktop$ ./a.out
hello
Total bytes written: 6
apsit@apsit-HP-280-G3-MT:~/Desktop$ gcc write.c
apsit@apsit-HP-280-G3-MT:~/Desktop$ ./a.out
hello
Total bytes written: 6
apsit@apsit-HP-280-G3-MT:~/Desktop$ gcc write.c
apsit@apsit-HP-280-G3-MT:~/Desktop$ ./a.out
123456789
123456789
apsit@apsit-HP-280-G3-MT:~/Desktop$ gcc write.c
apsit@apsit-HP-280-G3-MT:~/Desktop$ ./a.out
123456789abcdefghijklmnopqrstuvwxyz^[[D^[[D
123456789aapsit@apsit-HP-280-G3-MT:~/Desktop$ bcdefghi
bcdefghi: command not found
apsit@apsit-HP-280-G3-MT:~/Desktop$ gcc write.c
apsit@apsit-HP-280-G3-MT:~/Desktop$ ./a.out
Parent Passing value to child
Child printing received value
hello
apsit@apsit-HP-280-G3-MT:~/Desktop$
```

Program:

```
#include<stdio.h>
#include <unistd.h>
#include <signal.h>
#include <stdlib.h>
int main()
{
while(1)
{
printf("wasting your cycles. %d\n", getpid());
sleep(1);
}
}
```

Output:

A screenshot of a terminal window with a dark purple background. The terminal title bar shows 'es' and 'Terminal'. The menu bar includes 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The prompt is 'apsit@apsit-HP-280-G3-MT:~/Desktop\$'. The user enters 'gcc write.c' and then './a.out'. The output shows five lines of 'wasting your cycles. 4209'. After pressing Ctrl-C, the prompt returns to 'apsit@apsit-HP-280-G3-MT:~/Desktop\$' with a cursor.

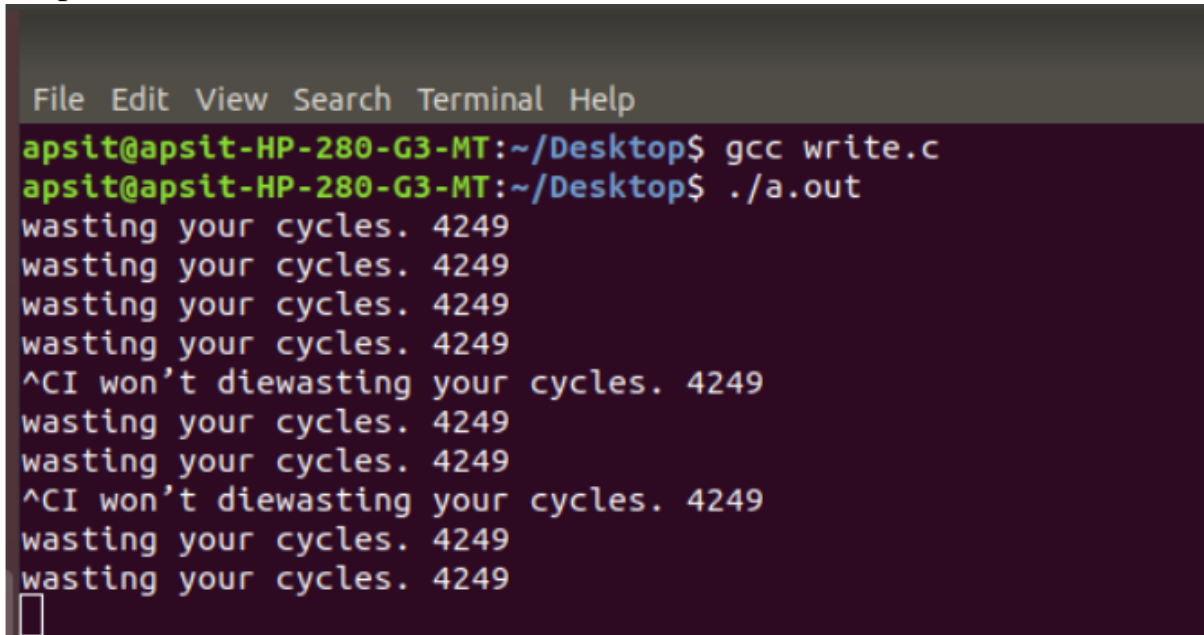
```
es Terminal
File Edit View Search Terminal Help
apsit@apsit-HP-280-G3-MT:~/Desktop$ gcc write.c
apsit@apsit-HP-280-G3-MT:~/Desktop$ ./a.out
wasting your cycles. 4209
wasting your cycles. 4209
wasting your cycles. 4209
wasting your cycles. 4209
wasting your cycles. 4209
^C
apsit@apsit-HP-280-G3-MT:~/Desktop$
```

Program:

```
#include<stdio.h>
#include <unistd.h>
#include <signal.h>
#include <stdlib.h>
void handler(int num)
{
write(STDOUT_FILENO, "I won't die!\n",13);
}
int main()
{
```

```
signal(SIGINT, handler);
while(1)
{
printf("wasting your cycles. %d\n", getpid()); sleep(1);
}
}
```

Output:



```
File Edit View Search Terminal Help
apsit@apsit-HP-280-G3-MT:~/Desktop$ gcc write.c
apsit@apsit-HP-280-G3-MT:~/Desktop$ ./a.out
wasting your cycles. 4249
wasting your cycles. 4249
wasting your cycles. 4249
wasting your cycles. 4249
^CI won't diewasting your cycles. 4249
wasting your cycles. 4249
wasting your cycles. 4249
^CI won't diewasting your cycles. 4249
wasting your cycles. 4249
wasting your cycles. 4249
□
```