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EX 5:

SERVER:

```
#include<netinet/in.h>

#include<unistd.h>

#include<string.h>

#include<stdio.h>

#include<arpa/inet.h>

#include<stdlib.h>

#include<time.h>

const int port = 8086;

int main(){

    int server_f = socket(AF_INET, SOCK_STREAM, 0);

    int opt = 1;

    setsockopt(server_f, SOL_SOCKET, SO_REUSEADDR | SO_REUSEPORT, &opt, sizeof(opt));

    struct sockaddr_in addr;

    addr.sin_family = AF_INET;

    addr.sin_addr.s_addr = INADDR_ANY;

    addr.sin_port = htons(port);

    bind(server_f, (struct sockaddr*)&addr, sizeof(addr));

    listen(server_f,1);

    printf("SERVER IS OPERATIONAL...\n");

    size_t addrl = sizeof(addr);

    int connection = accept(server_f, (struct sockaddr*)&addr, (socklen_t*)&addrl);

    if (connection < 0){
```

```

printf("Client unreachable!");
return 0;
}
else{
printf("Connection with Client Established!");
}
char displaymsg[1024];
time_t t = time(NULL);
sprintf(displaymsg, "%s", ctime(&t));
send(connection,displaymsg,1024,0);
return 0;
}

```

CLIENT:

```

#include<sys/socket.h>
#include<netinet/in.h>
#include<unistd.h>
#include<string.h>
#include<stdio.h>
#include<arpa/inet.h>
#include<stdlib.h>

const int port = 8086;

int main() {

int sock = socket(AF_INET, SOCK_STREAM, 0);

struct sockaddr_in addr;

addr.sin_family = AF_INET;

addr.sin_port = htons(port);

inet_pton(AF_INET, "127.0.0.1", &addr.sin_addr);

if (connect(sock, (struct sockaddr*)& addr,sizeof(addr)) < 0){

```

```
printf("CONNECTION FAILED! TRY AGAIN!");
```

```
return 0;
```

```
}
```

```
char daytime[1024];
```

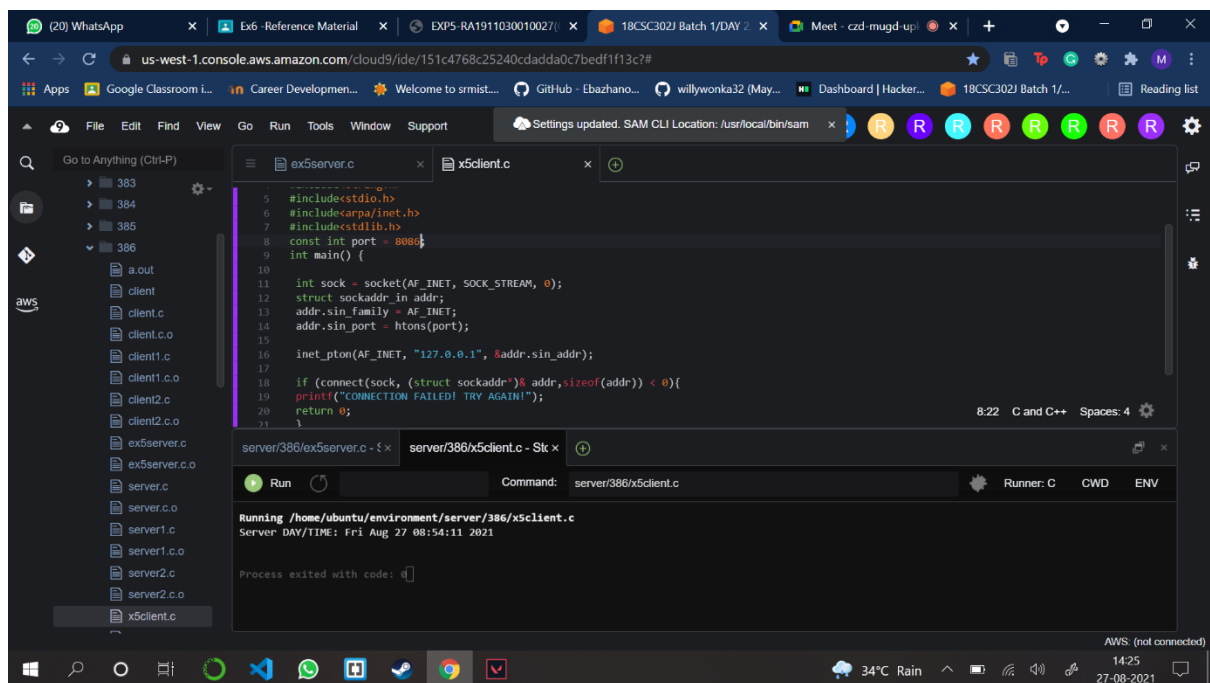
```
read(sock, daytime, 1024);
```

```
printf("Server DAY/TIME: %s", daytime);
```

```
return 0;
```

```
}
```

OUTPUT:



The screenshot shows a web browser window at the top with several tabs, including 'us-west-1.console.aws.amazon.com'. Below the browser is a code editor with two files open: 'ex5server.c' and 'x5client.c'. The 'ex5server.c' file contains the following C code:

```
5 #include<stdio.h>
6 #include<arpa/inet.h>
7 #include<stdlib.h>
8 const int port = 8080;
9 int main() {
10
11     int sock = socket(AF_INET, SOCK_STREAM, 0);
12     struct sockaddr_in addr;
13     addr.sin_family = AF_INET;
14     addr.sin_port = htons(port);
15
16     inet_pton(AF_INET, "127.0.0.1", &addr.sin_addr);
17
18     if (connect(sock, (struct sockaddr*)&addr, sizeof(addr)) < 0){
19         printf("CONNECTION FAILED! TRY AGAIN!");
20         return 0;
21     }
```

The 'x5client.c' file is also open but its content is not visible. Below the code editor is a terminal window showing the output of the program. The terminal displays the command 'server/386/x5client.c' and the output 'Server DAY/TIME: Fri Aug 27 08:54:11 2021'. The terminal also shows 'Process exited with code: 0'.