

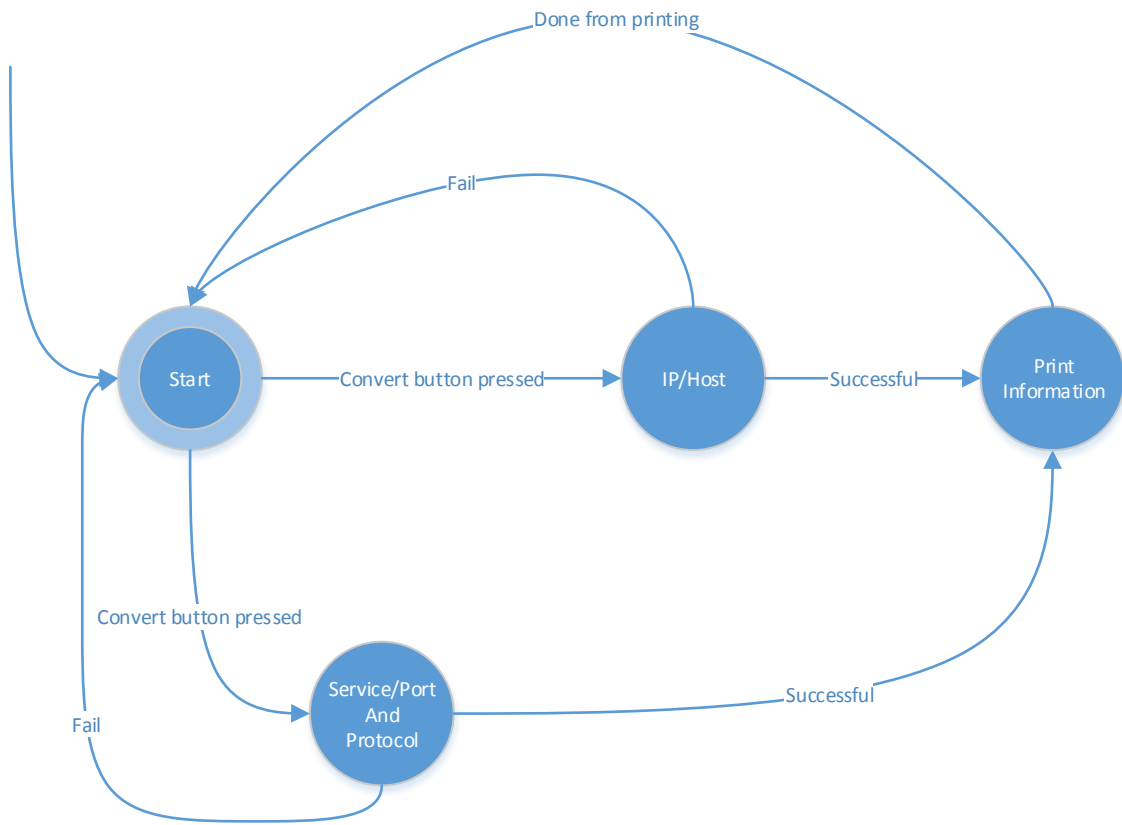
COMP 4985

Assignment 1

Robin Hsieh A00657820

1/15/2014

Design



Function Prototypes

```
void draw_text_title(HDC hdc, int cxChar, int cyChar) ;
```

```
char* get_IPaddr(const char* hostname) ;
```

```
char* get_hostname(const char* IPaddr) ;
```

```
char* port_to_service(const char* port, const char* protocol) ;
```

```
char* service_to_port(const char* port, const char* protocol) ;
```

Pseudo Code

```
MainWindow()
```

```
{  
    Register windows properties  
    Create window  
    Set up text boxes for user inputs  
  
    Wait for user input  
    if convert button is pressed and IP is inputted  
        call IP_to_host() function  
    if convert button is pressed and host name is inputted  
        call host_to_IP() function  
    if convert button is pressed and service name and protocol is inputted  
        call serviceName_to_portNumber() function  
    if convert button is pressed and port number and protocol is inputted  
        call portNumber_to_serviceName() function  
  
}
```

```
IP_to_host()
```

```
{  
    get IP from input textbox  
    call WinSock2 command to get host name  
    if successful  
    {  
        call print_output() function  
    }  
    else  
    {  
        call print_error_message() function  
    }  
}
```

```
host_to_IP()
```

```
{
```

```
get host from input textbox
call WinSock2 command to get IP addresses
if successful
{
    call print_output() function
}
else
{
    call print_error_message() function
}
}
```

```
serviceName_to_portNumber()
{
    get service name from input textbox
    call WinSock2 command to get port number
    if successful
    {
        call print_output() function
    }
    else
    {
        call print_error_message() function
    }
}
```

```
portNumber_to_serviceName()
{
    get port number from input textbox
    call WinSock2 command to get service name
    if successful
    {
        call print_output() function
    }
    else
    {
        call print_error_message() function
    }
}
```

```
print_output()
{
    print message to screen
}
print_error_message()
{
    print error message to screen
}
```

Test Documents

Test	Test Description	Expected Result	Pass/Fail	Screen Shot
1	Input host name	Returns IP address (multiple IP addresses)	Pass	Figure 1a and Figure 1b
2	Input IP address	Returns host name	Pass	Figure 2
3	Input service name and protocol	Returns port number	Pass	Figure 3
4	Input port number and protocol	Returns service name	Pass	Figure 4
5	Input invalid service name	Returns proper error message	Pass	Figure 5
6	Input invalid protocol	Returns proper error message	Pass	Figure 6
7	Input invalid port number	Returns proper error message	Pass	Figure 7

Figure 1a

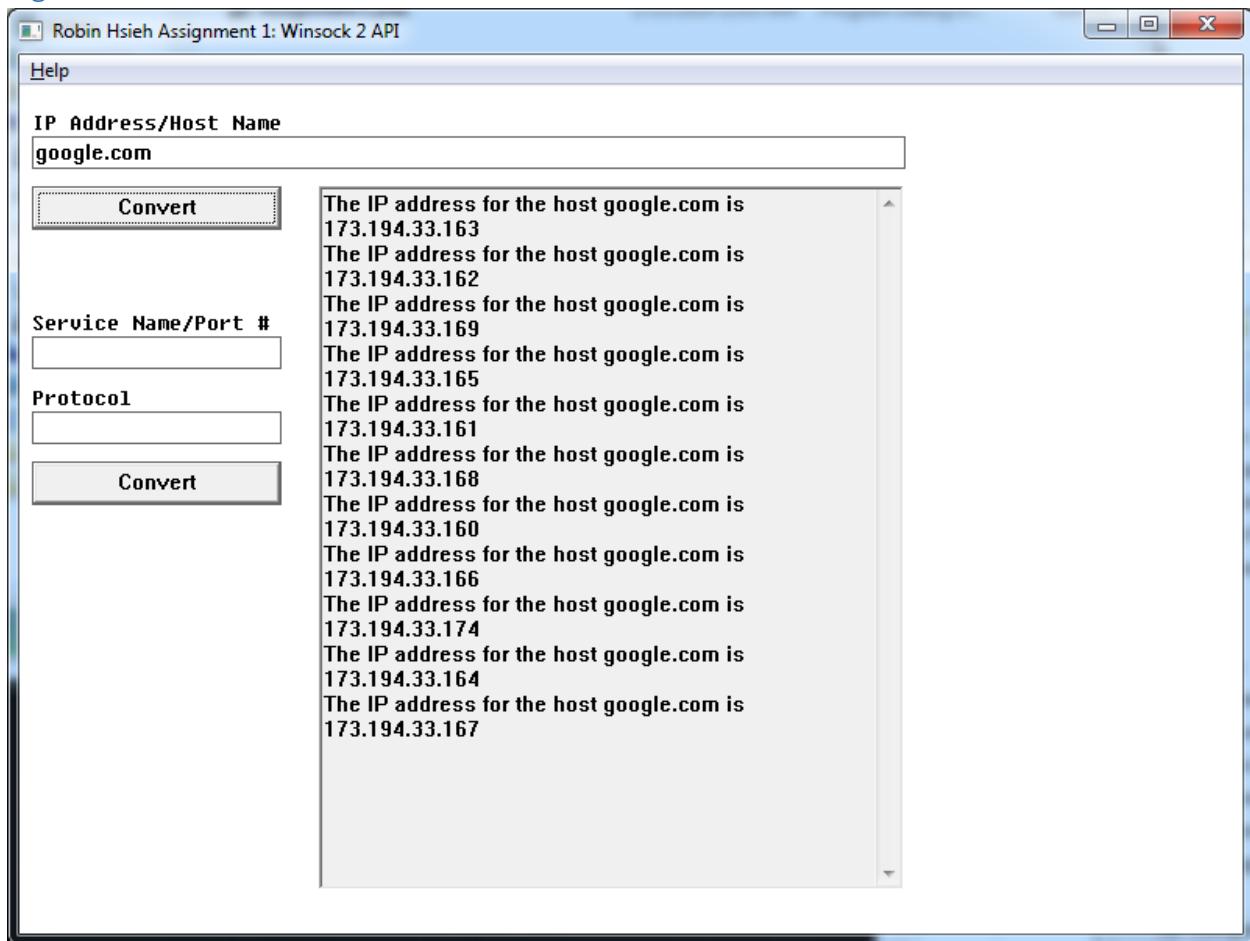


Figure 1b

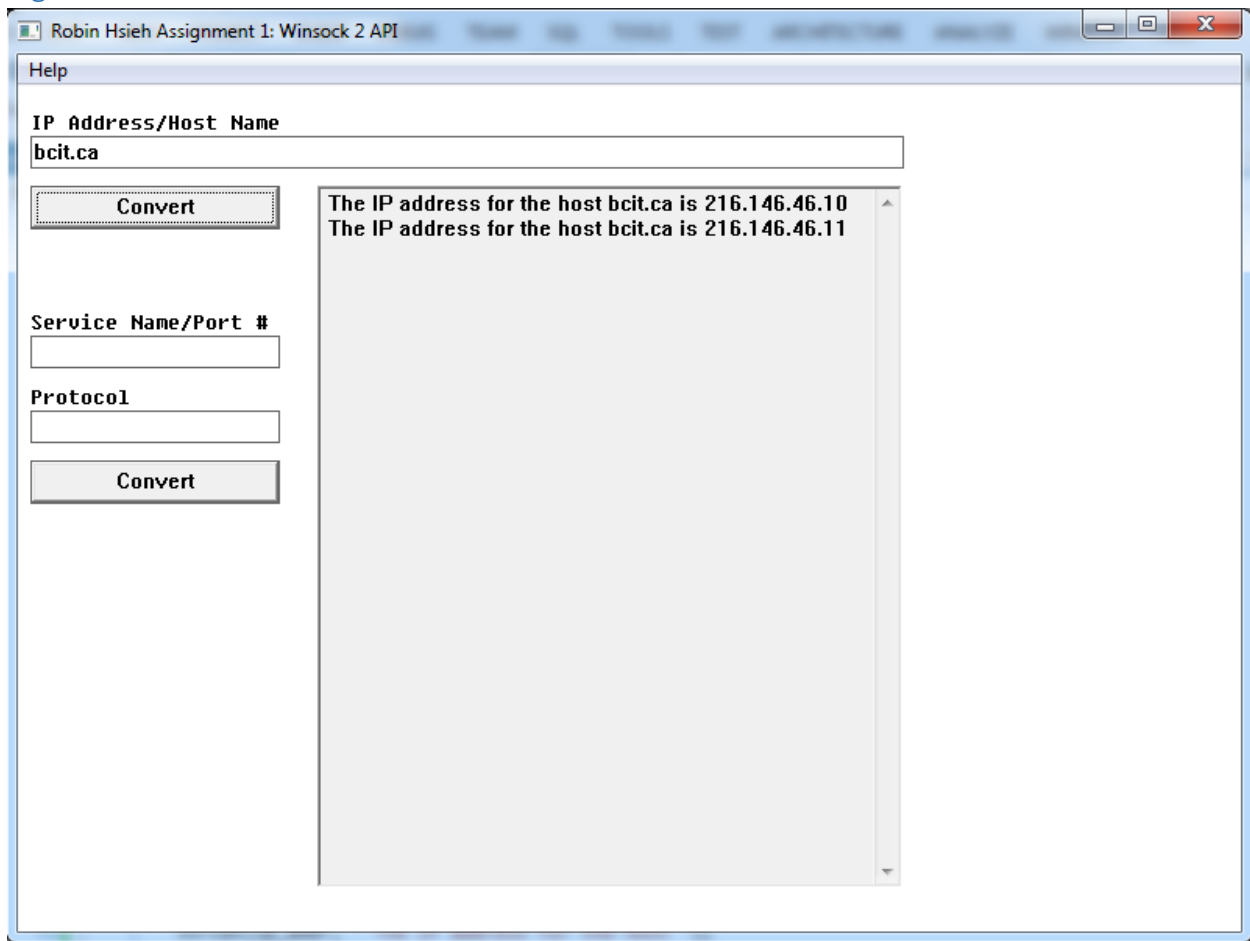


Figure 2

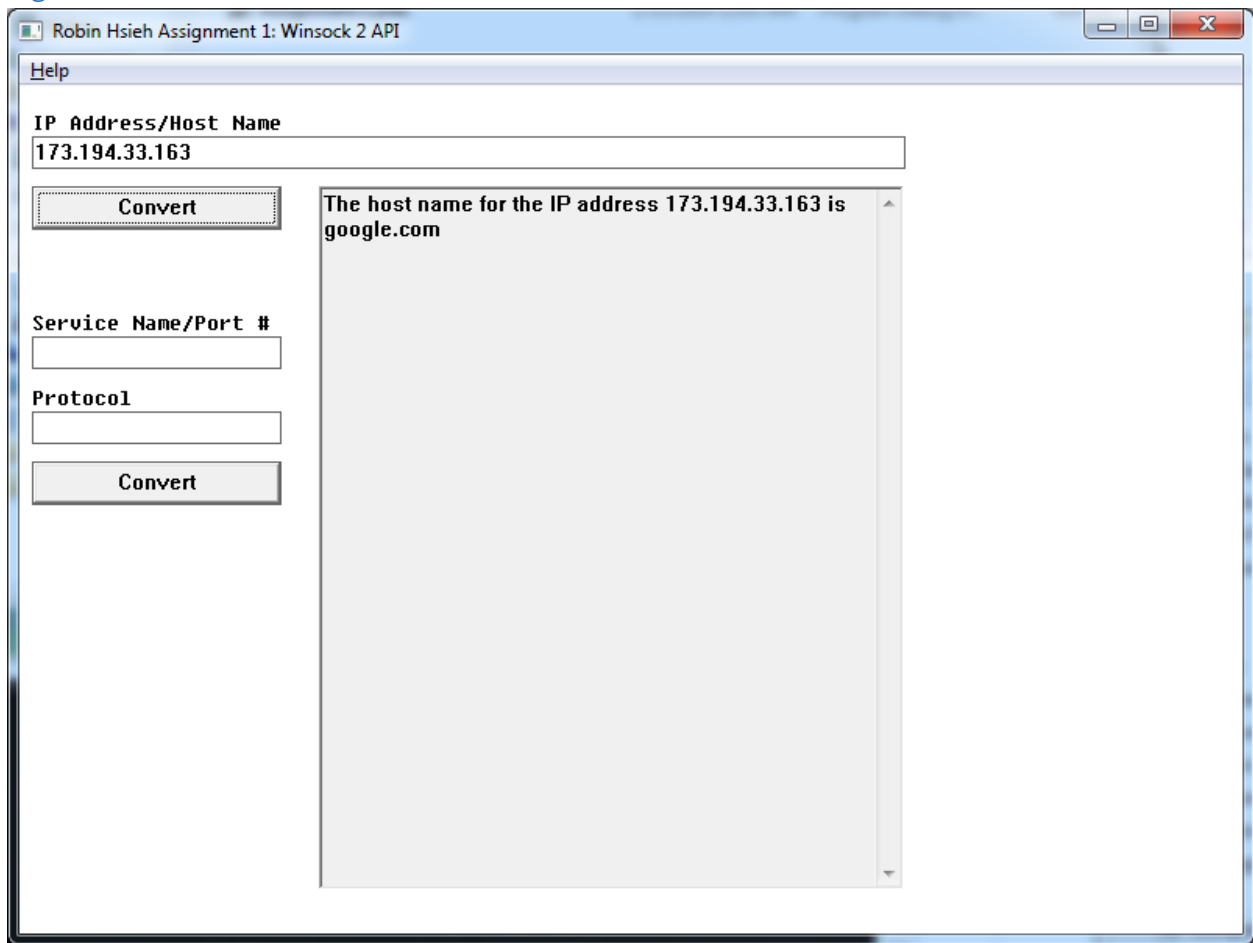


Figure 3

Robin Hsieh Assignment 1: Winsock 2 API

Help

IP Address/Host Name

Convert

Service Name/Port #

http

Protocol

tcp

Convert

The port number for http is: 80

Figure 4

Robin Hsieh Assignment 1: Winsock 2 API

Help

IP Address/Host Name

Convert

Service Name/Port #

20

Protocol

tcp

Convert

The service for port #20 is ftp-data

Figure 5

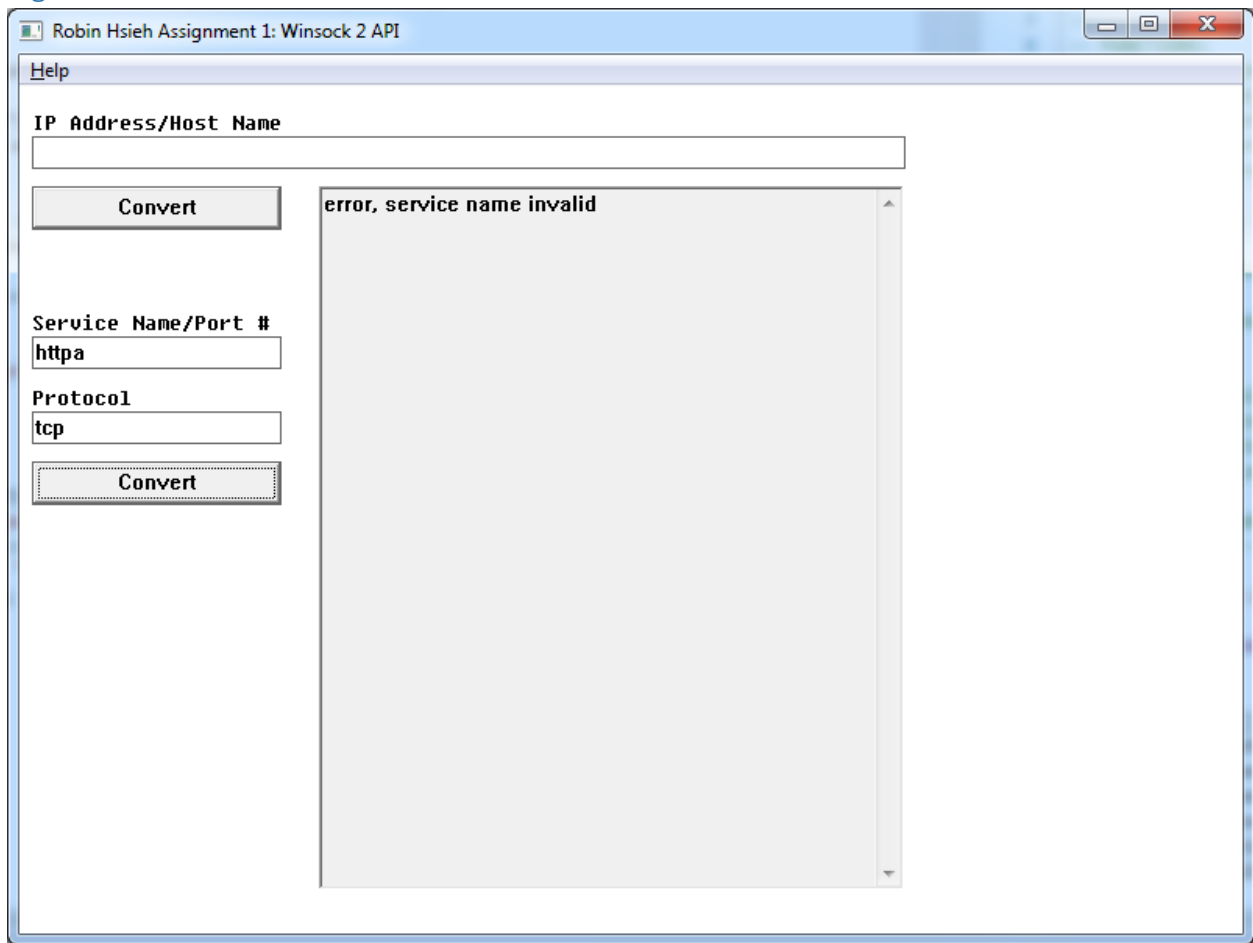


Figure 6

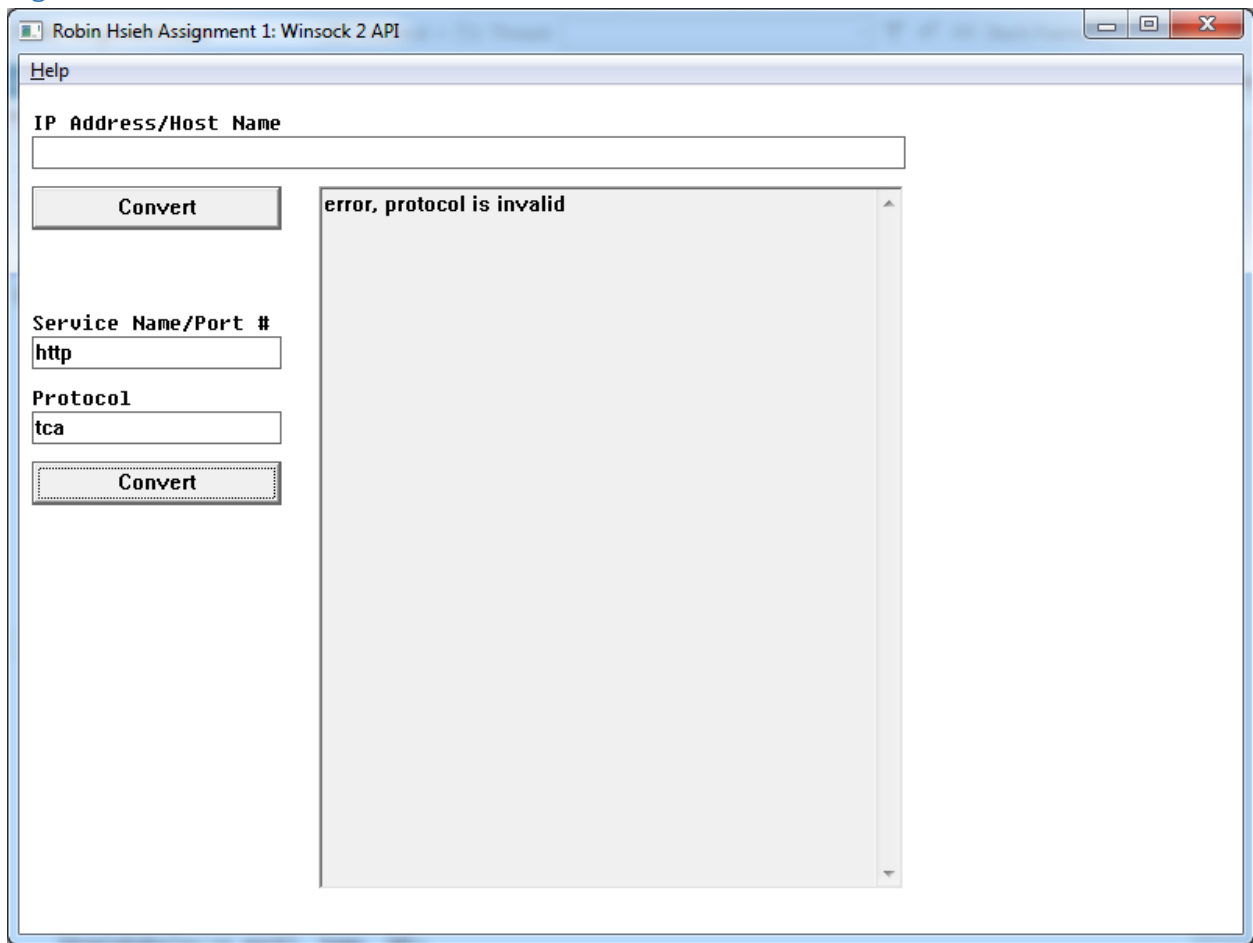


Figure 7

Robin Hsieh Assignment 1: Winsock 2 API

Help

IP Address/Host Name

Convert

Service Name/Port #

99

Protocol

tcp

Convert

port number is invalid