LAB-06

CSE2020

INTRODUCTION TO CPS LAB

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Aim: To introduce ourselves to Node-Red.

Tools Used: Node-Red.

Task 1: Installing Node-Red.

Screenshot:

```
C:\Users\Preyash>node-red run
26 Feb 21:21:15 - [info]

Welcome to Node-RED
===================

26 Feb 21:21:15 - [info] Node-RED version: v2.2.0
26 Feb 21:21:15 - [info] Node.js  version: v14.17.3
26 Feb 21:21:15 - [info] Windows_NT 10.0.19043 x64 LE
26 Feb 21:21:16 - [info] Loading palette nodes
26 Feb 21:21:17 - [info] Settings file  : C:\Users\Preyash\.node-red\settings.js
26 Feb 21:21:17 - [info] Context store  : 'default' [module=memory]
26 Feb 21:21:17 - [info] User directory : \Users\Preyash\.node-red
26 Feb 21:21:17 - [warn] Projects disabled : editorTheme.projects.enabled=false
26 Feb 21:21:17 - [info] Flows file     : \Users\Preyash\.node-red\run
26 Feb 21:21:17 - [info] Creating new flow file
26 Feb 21:21:17 - [warn]

-------------------------------------------------------------------
```

Task 2: Hello World Printing.

Flow:
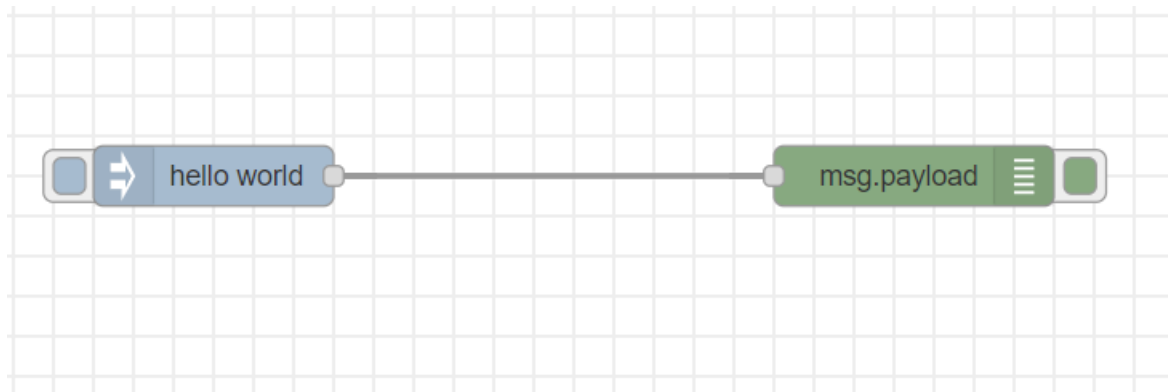
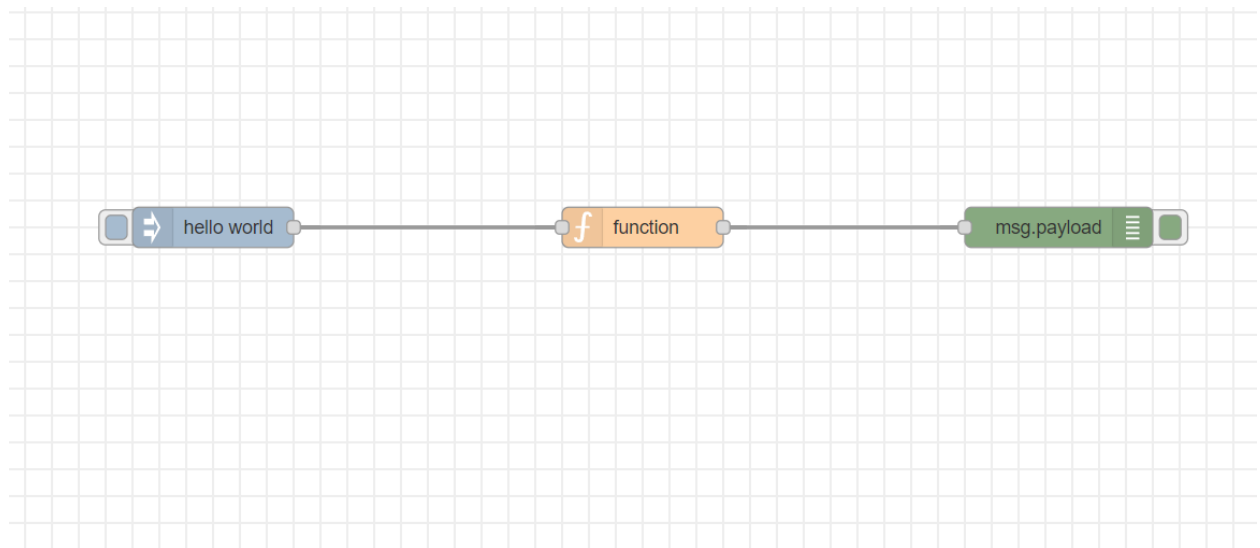**Debug window:**

2/26/2022, 9:54:48 PM   node: 1285df6f0df250a1
msg.payload : string[11]

"hello world"

Task 3: Add a timestamp to the given string input.
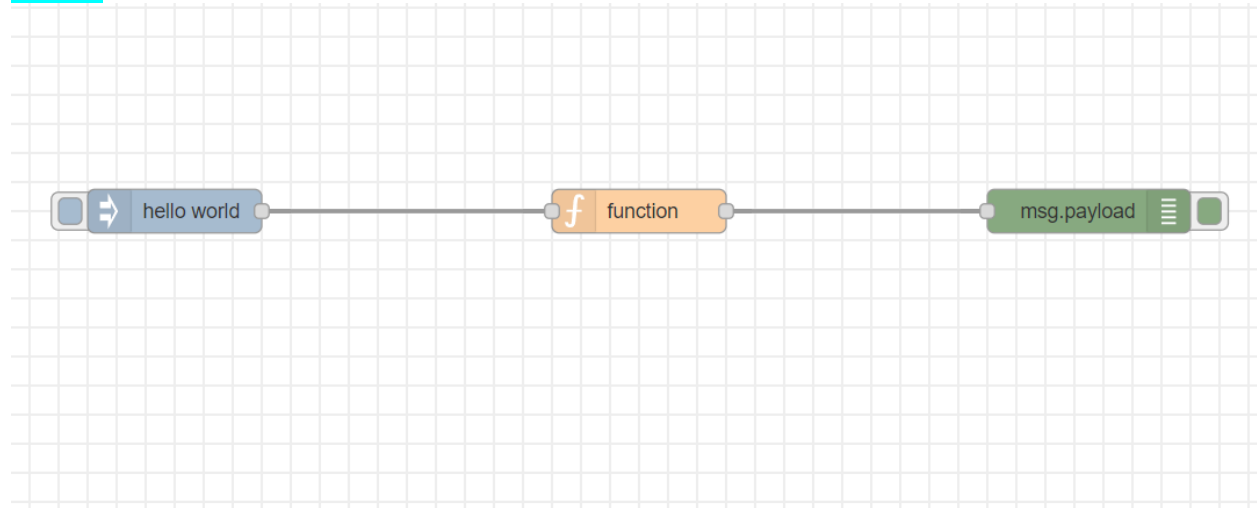
Flow:

Debug window:

```
2/26/2022, 10:07:18 PM   node: cf3c45a0b751e8fc
msg.payload : string[36]

"hello world The time is 10:07:18
PM."
```

Code:

```
var dateNow = new Date();

var timeAsString = dateNow.toLocaleTimeString();

msg.payload = msg.payload + ' The time is ' + timeAsString + '.';

return msg;
```

Task 4: Write a program for String Count: counting number of words and number of characters in the following format:

Debug window:


```
2/26/2022, 10:08:51 PM   node: 9cbe52cf0a559f76
msg.payload : string[94]

"The entered string: hello world No
of Characters in the string :11 No of
Words in the string:2"
```
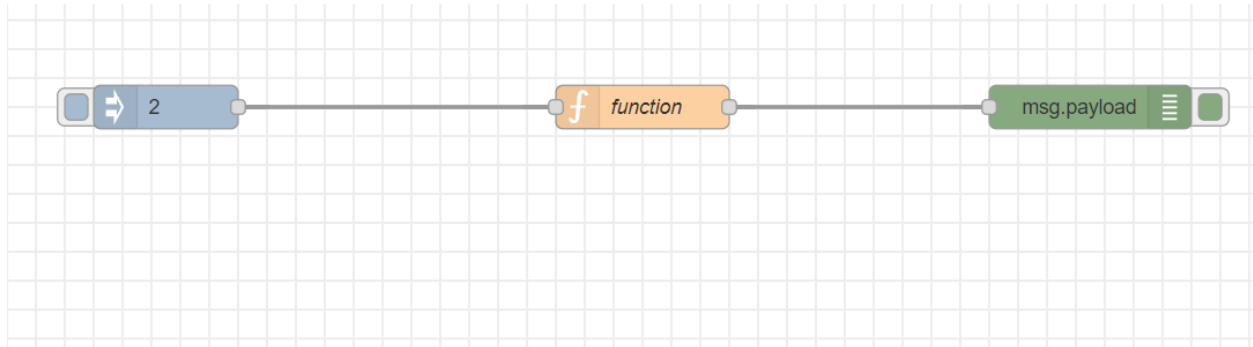
Code:

var ip = msg.payload;

var wordCount = ip.match(/(\w+)/g).length;

var letterCount=ip.length;

msg.payload = 'The entered string: '+msg.payload + ' No of Characters in the string :' +

letterCount + ' No of Words in the string:'+wordCount;

return msg;

Task 5: Write a Program to convert the temperature given as Degrees to Fahrenheit using the formula in Node-RED (T°C × 9/5) + 32 = X°F

Debug window:


```
2/26/2022, 10:10:05 PM   node: 3e0680339c387ff8
msg.payload : string[83]

"The entered temperature in celcius
is : 2 Coverted To
Farenheittemperature is :35.6"
```

Code:

var ip = msg.payload;

var op= (ip*(9/5))+32;

msg.payload = 'The entered temperature in celcius is : '+ip+ ' Coverted To Farenheittemperature is :' + op;

return msg;

Result:

We have tested out the basics of Node-Red.