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Paper Name: Scripting Languages and R Lab
Paper Code: PMC 103 Paper Type: Regular
ID: 21711241

Form.html

Q1.
```
<!doctype html>
<html>
<head>
<title> Checking Blank Entry Fields</title>
<script>
function validate(){
if(document.getElementById('nametxt').value==""  &&
   document.getElementById('dob').value==""  &&
   document.getElementById('mail').value=="") {
   alert("Name, Date of Birth and Email are Empty");
   }
else if(document.getElementById('nametxt').value==""  &&
   document.getElementById('dob').value=="") {
   alert("Name and Date of Birth are Empty");
   }
else if(document.getElementById('dob').value==""  &&
   document.getElementById('mail').value=="") {
   alert("Date of Birth and Email are Empty");
   }
else if(document.getElementById('nametxt').value==""  &&
   document.getElementById('mail').value=="") {
   alert("Name and Email are empty");
   }
```

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```
else if(document.getElementById('nametxt').value == "") {
 alert("Name is Empty");
 }
else if(document.getElementById('dob').value == "") {
 alert("Date of Birth is Empty");
 }
else if(document.getElementById('mail').value == "") {
 alert("Email is Empty");
 }
};
</script>
</head>
<body>
 <h1> Checking Blank Entry Fields </h1>
 <fieldset>
 <legend> Enter Information</legend> Name:
<input class="input" type="text" id="nametxt" name="nametxt"/>
 <br> Date of Birth:
<input class="input" type="date" id="dob" name="dob" />
<br> Email:
<input class="input" type="email" id="mail" name="mail" />
<br>

<button type="button" onClick="validate()" value="send data">
 Submit </button>
</fieldset>
</body>
</html>
```

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Q2. form.html (3)

```
<html>
<head>
<title> Student Registration </title>
</head>
<body>
<fieldset>
<legend> Enter Information </legend>
<form action = "data.php" method = "POST">
Name:
<input type = "text" name = "nametxt" /> <br>
Rollno:
<input type = "text" name = "roll" /> <br>
Address:
<textarea name = "add"></textarea> <br>
Email ID:
<input type = "email" name = "mail" /> <br>
Date of Birth:
<input type = "date" name = "dob" /> <br>
<input type = "Submit" name = "sub" value = "save">
<input type = "reset" value = "resetall" >
</form>
</fieldset>
</body>
</html>
```

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data.php

```
<html>
<head>
<title> Data entered </title>
</head>
<body>
<? php
   echo "Name : " . $_POST ["nametxt "] . "</br>";
   echo "Roll no:" . $_POST ["roll" ] . "</br>" ;
   echo "Address :". $_POST ["add" ] . "</br>" ;
   echo "Email :". $_POST ["mail"] . "</br>";
   echo "Date of Birth:". $_POST ["dob"] . "</br">;
  ?>

</body>
</html>
```

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Q3. Analyze any csv dataset using R. (5)

CSV ⇒ rainfall.csv (State wise, forest cover, total area, total annual rainfall)

```
# Setting of working directory
> setwd("D:/rp")

# Reading of csv file
> data ← read.csv("rainfall.csv")

# Installing and using library
> install.packages("ggplot2")
> library(ggplot2)
# Analysis
1. > summary(data)
```

States	total.area	total.forest	percent	annual.rainfall
Length: 36	Min : 30	Min : 21.49	Min. : 3.62	Min : 351.8
Class : character	1st Qua : 9927	1st Qua : 3065.75	1st Q : 15.67	1st Q : 1008.5
Mode : character	Median : 54578	Median : 16738.50	Median : 26.48	Median : 1421.3
	Mean : 91331	Mean : 19951.99	Mean : 36.07	Mean : 1710.0
	3rd Qua : 140320	3rd Qua : 26499.00	3rd Q : 55.92	3rd Qu : 2197.1
	Max : 342239	Max : 77842.00	Max : 90.33	Max : 4489.5

```
2. > names(data)
[1] "states"  "total.area"  "total.forest"  "percent"  "annual.rainfall"

3. > dim(data)
[1] 36  5

4. > str(data)
'data.frame' : 36 obs. of 5 variables
$ states          : chr "A&N Islands" "Arunachal Pradesh" .....
$ total.area      : int  8249  83743  78438 .....
$ total.forest    : num  6743  66688  28327 .....
$ percent         : num  81.7  79.6  36.1 .....
$ annual.rainfall : num  3086  2433  2085 .....
```

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Q4. # some descriptive measures (6)

```
>min(data$annual.rainfall)
[1] 351.8
>max(data$annual.rainfall)
[1] 4489.5
>mean(data$annual.rainfall)
[1] 1709.961
>mean(data$percent)
[1] 36.07083
>median(data$annual.rainfall)
[1] 1421.3
>median(data$percent)
[1] 26.485
>quantile(data$annual.rainfall, 0.25)
  25%
1008.45
>quantile(data$annual.rainfall, 0.75)
  75%
2197.075
>sd(data$annual.rainfall)
[1] 989.6392
>sd(data$percent)
[1] 27.31568
>var(data$annual.rainfall)
[1] 979385.8
>var(data$percent)
[1] 746.1463
```

Measures of Central Tendency and Spread which give
us a more quantitative approach.

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some inferential statistics

```
>plot(data$annual.rainfall, data $percent, main="Relation of
      % of forest cover with Annual Rainfall", xlab="Forest %"
      ylab="Annual rainfall")
> abline(lm(percent ~ annual.rainfall, data=data), col="red")
> plot(lm(percent ~ annual.rainfall, data), which = 2, id.n=0)
> ggplot(data, aes(x=states, y=percent)) + geom boxplot()
> boxplot(data $percent)
```

⇒ Inferences

1. States which have a higher percent of their total geographical area under forest cover receive higher annual rainfall.

2. Percent of area under forest cover and total annual rainfall has a coefficient of correlation 0.629632 which shows a positive correlation, i.e. as percent of forest cover increases, so does the annual rainfall.

3. Some outliers are still present, but, that is due to many geographical reasons like location, extent and other climatic factors.