**--(5) Example 32.1**

USE sample;

GO

execute sp\_execute\_external\_script

@language = N'R'

, @script = N' OutputDataSet <- InputDataSet;'

, @input\_data\_1 = N' SELECT project\_no, budget FROM project;'

WITH RESULT SETS ((Name CHAR(20), Balanced\_budget INT));

**--(5) Example 32.2**

USE sample;

DECLARE @rscript NVARCHAR(MAX);

SET @rscript = N'OutputDataSet <- SqlData;

OutputDataSet[,2] <- round(SqlData$budget/7, 2);';

EXEC sp\_execute\_external\_script

@language = N'R',

@script = @rscript,

@input\_data\_1 = N'SELECT project\_no, budget FROM project',

@input\_data\_1\_name = N'SqlData';

**-- (5) Example 32.3**

USE AdventureWorks;

GO

DECLARE @rscript NVARCHAR(MAX);

SET @rscript = N'

purchase <- InputDataSet

c1 <- levels(purchase$Units)

print(c1)';

DECLARE @select NVARCHAR(MAX);

SET @select = N'

SELECT h.subtotal AS Total, v.UnitMeasureCode AS Units

FROM Purchasing.PurchaseOrderHeader h

INNER JOIN Purchasing.PurchaseOrderDetail d

ON h.PurchaseOrderID = d.PurchaseOrderID

INNER JOIN Purchasing.ProductVendor v ON d.ProductID=v.ProductID';

EXEC sp\_execute\_external\_script

@language = N'R',

@script = @rscript,

@input\_data\_1 = @select;

**--(5) Example 32.4**

USE AdventureWorks;

GO

DECLARE @rscript NVARCHAR(MAX);

SET @rscript = N'

purchase <- InputDataSet

c1 <- levels(purchase$Units)

c2 <- round(tapply(purchase$total, purchase$Units, sum))

purchase <- data.frame(c1, c2)

print(c2)';

DECLARE @select NVARCHAR(MAX);

SET @select = N'

SELECT h.subtotal AS total, v.UnitMeasureCode AS Units

FROM Purchasing.PurchaseOrderHeader h

INNER JOIN Purchasing.PurchaseOrderDetail d

ON h.PurchaseOrderID = d.PurchaseOrderID

INNER JOIN Purchasing.ProductVendor v ON d.ProductID= v.ProductID';

EXEC sp\_execute\_external\_script

@language = N'R',

@script = @rscript,

@input\_data\_1 = @select;

**-- (5) Example 32.5**

USE AdventureWorks;

GO

DECLARE @rscript NVARCHAR(MAX);

SET @rscript = N'

# Step 1: Import R packages

library(scales)

library(ggplot2)

# Step 2: Specify report file

file <- "C:\\Temp\\Figure32\_1.tif"

tiff(filename=file, width=1000, height=600)

# Step 3: Specify data frame

purchase <- InputDataSet

c1 <- levels(purchase$Units)

c2 <- round(tapply(purchase$total, purchase$Units, sum))

purchasedf <- data.frame(c1, c2)

names(purchasedf) <- c("total", "Units")

# Step 4: Generate bar chart

barchart <- ggplot(purchasedf, aes(y=Units, x=Total)) +

labs(title="Total Purchases per Unit Code", x="Unit Measure Codes", y="Purchase Amounts") +

geom\_bar(stat="identity", color="blue", size=1, fill="lightblue")

print(barchart)

dev.off()';

DECLARE @select NVARCHAR(MAX);

SET @select = N'

SELECT h.subtotal AS Total, v.UnitMeasureCode AS Units

FROM Purchasing.PurchaseOrderHeader h

INNER JOIN Purchasing.PurchaseOrderDetail d

ON h.PurchaseOrderID = d.PurchaseOrderID

INNER JOIN Purchasing.ProductVendor v ON d.ProductID= v.ProductID';

EXEC sp\_execute\_external\_script

@language = N'R',

@script = @rscript,

@input\_data\_1 = @select

WITH RESULT SETS NONE;