How to read input from user in Bash Shell?

While programming in shell scripting, you might encounter a situation where you need a response from the user. In that case, bash shell provides `read` command which you can use for reading input from the user.

Syntax of read command

```
read variable
OR
read -p "Message" variable
```

Once you enter the response, the entered data is stored in the variable.

Read command Examples

```bash
#Bash Shell script to find factorial of a number
echo -n "Enter a number: "
read number
factorial=1
for (( i=1; i<=number; i++ ))
do
   factorial=$[ $factorial * $i ]
done
echo "The factorial of $number is $factorial"
```

Output of the above program

```
Enter a number: 5
The factorial of 5 is 120
```

Explanation of the above code-

```
echo -n "Enter a number: "
read number
```

When you use `-n` option with `echo` command, then newline character is not appended at the end of the string. By doing this, you enable the user to input data just after the string "Enter a number: ". After this, the user's response is stored in a `number` variable. In case, you want to use `-p` option of `read` command then no need to write `echo` command to display message. The above two lines can be replaced with the below single statement.

```
read -p "Enter a number: " number
```

```
factorial=1
for(( i=1; i<=number; i++ ))
do
   factorial=$[ $factorial * $i ]
done
echo "The factorial of $number is $factorial"
```

Bash shell `for` loop will iterate through all numbers from 1 to the entered number and stores the multiplication of each number in a `factorial` variable.