1. SUM OF ODD NUMBERS

```sh
 1 #!/bin/sh
 2
 3 echo " enter limit of sum : "
 4 read lim
 5
 6 num=1
 7 sum=0
 8
 9 while [ $num -le $lim ]
10 do
11         sum=`expr $sum + $num`
12         num=`expr $num + 2`
13 done
14 echo $sum
```

OUTPUT

```
[ADITYAs-MacBook-Pro:~ adityaprakasha$ vi sumofodd.sh
[ADITYAs-MacBook-Pro:~ adityaprakasha$ sh sumofodd.sh
 enter limit of sum :
5
9
ADITYAs-MacBook-Pro:~ adityaprakasha$
```

2. SUM OF EVEN

```sh
 1 #!/bin/sh
 2
 3 echo " enter limit of sum : "
 4 read lim
 5
 6 num 0
 7 sum 0
 8
 9 while [ $num -le $lim ]
10 do
11         sum `expr $sum + $num`
12         num `expr $num + 2`
13 done
14 echo $sum
```

OUTPUT

```
ADITYAs-MacBook-Pro:USP-LAB-PROGRAMS adityaprakasha$ vi sumofeven.sh
ADITYAs-MacBook-Pro:USP-LAB-PROGRAMS adityaprakasha$ sh sumofeven.sh
 enter limit of sum :
20
110
ADITYAs-MacBook-Pro:USP-LAB-PROGRAMS adityaprakasha$
```

3. FACTORIAL OF A NUMBER

```bash
1 #!/bin/bash
2
3 echo "Enter number to find factorial of"
4 read num
5 fact=1
6
7 while [ $num -gt 1 ]
8 do
9         fact=`echo "$fact* $num" | bc`
10        num=$((num-1))
11 done
12 echo $fact
```

OUTPUT

```
[ADITYAs-MacBook-Pro:~ adityaprakasha$ vi factofanum.sh
[ADITYAs-MacBook-Pro:~ adityaprakasha$ sh factofanum.sh
Enter number to find factorial of
10
3628800
ADITYAs-MacBook-Pro:~ adityaprakasha$
```

4. SUM OF N NUMBERS

```bash
1 #!/bin/bash
2
3 echo "enter limit of sum :"
4 read num
5
6 sum=0
7
8 while [ $num -gt 0 ]
9 do
10        sum=`expr $sum + $num`
11        num=`expr $num - 1`
12 done                   5. Sum of n natural numbers
13 echo $sum
```

OUTPUT

```
[ADITYAs-MacBook-Pro:~ adityaprakasha$ vi sumofnnum.sh
[ADITYAs-MacBook-Pro:~ adityaprakasha$ sh sumofnnum.sh
enter limit of sum :
10
55
ADITYAs-MacBook-Pro:~ adityaprakasha$
```