Comparison of *sm* shell script with *bash* shell script

(Outputs)

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bash script(file1.sh)

```
#!\bin\bash
#this is a comment
var=9
var2=$((7+$var)) #this is a comment
var3=$((6+1))

echo $var2
echo $var3

now=$(($var3**3))

echo $now
```

output of bash script(file1.sh)

```
16
7
343
```

sm script(file1.sm)

```
@
        #this is a comment
        var=9
        var2=$((7+$var)) #this is a comment
        var3=$((6+1))

        echo $var2
        echo $var3

        now=$(($var3**3))

        echo $now


@
```

output of sm script(file1.sm)

```
var2=16
var3=7
now=343
Result=8, Return status=0(success)
```

bash script(file2.sh)

```
#!/bin/bash
a=$((!(4<=8)>>9))
echo $a
```

output of bash script(file2.sh)

```
0
```

sm script(file2.sm)

```
@
        a=$((!(4<=8)>>9))
        echo $a
@
```

output of sm script(file2.sm)

```
a=0
Result=4, Return status=0(success)
```

bash script(file3.sh)

```
#!/bin/bash
a=-5
echo $a
```

output of bash script(file3.sh)

```
-5
```

sm script(file3.sm)

```
@
        a=-5
        echo $a
@
```

output of sm script(file3.sm)

```
a=-5
Result=5, Return status=0(success)
```

bash script(file4.sh)

```
#!/bin/bash
a=-5
b=$((-$a))
echo $b
```

output of bash script(file4.sh)

```
5
```

sm script(file4.sm)

```
@
        a=-5
        b=$((-$a))
        echo $b
@
```

output of sm script(file4.sm)

```
b=5
Result=4, Return status=0(success)
```

bash script(file5.sh)

```
#!/bin/bash
a=2
b=$((~$a**5))
echo $b
```

output of bash script(file5.sh)

```
-243
```

sm script(file5.sm)

```
@
a=2
b=$((~$a**5))
echo $b
@
```

output of sm script(file5.sm)

```
b=-243
Result=7, Return status=0(success)
```

bash script(file6.sh)

```
#!/bin/bash
a=7
b=9
c=$((-$a))
echo $c
k=$((+7))
echo $k
l=$((+$a))
echo $l
m=$(($b))
echo $b
```

output of bash script(file6.sh)

```
-7
7
7
9
```

sm script(file6.sm)

```
@
        a=7
        b=9
        c=$((-$a))
        echo $c
        k=$((+7))
        echo $k
        l=$((+$a))
        echo $l
        m=$(($b))
        echo $b
@
```

output of sm script(file6.sm)

```
c=-7
k=7
l=7
b=9
Result=4, Return status=0(success)
```

bash script(file7.sh)

```
#!\bin\bash
a=2
b=3
var=$((($a+$b)**2+$a-$b*5/$a))
echo $var
```

output of bash script(file7.sh)

```
20
```

sm script(file7.sm)

```
@
a=2
b=3
var=$((($a+$b)**2+$a-$b*5/$a))
echo $var
@
```

output of sm script(file7.sm)

```
var=20
Result=7, Return status=0(success)
```

bash script(file8.sh)

```
#!/bin/bash
a=7
b=9
c=$((-$a))
echo $c
k=$((+7))
echo $k
l=$((+$a))
echo $l
m=$(($b))
echo $b
echo $((5+$b))
```

output of bash script(file8.sh)

```
-7
7
```

7
9
14

sm script(file8.sm)

```
@
        a=7
        b=9
        c=$((-$a))
        echo $c
        k=$((+7))
        echo $k
        l=$((+$a))
        echo $l
        m=$(($b))
        echo $b

        echo $((5+$b))
@
```

output of sm script(file8.sm)

```
c=-7
k=7
l=7
b=9
14
Result=3, Return status=0(success)
```

bash script(file9.sh)

```
#!/bin/bash
a=9
b=8
echo $(($a==$b))
echo $(($a!=$b))
echo $(($a&$b))
echo $(($a^$b))
echo $(($a|$b))
echo $(($a&&$b))
echo $(($a||$b))
```

output of bash script(file9.sh)

```
0
1
8
1
9
1
1
```

sm script(file9.sm)

```
@
a=9
b=8
echo $(($a==$b))
echo $(($a!=$b))
echo $(($a&$b))
echo $(($a^$b))
echo $(($a|$b))
echo $(($a&&$b))
echo $(($a||$b))
@
```

output of sm script(file9.sm)

```
0
1
8
1
9
1
1
Result=2, Return status=0(success)
```

bash script(file10.sh)

```
#!/bin/bash
echo $((-7))
a=$((-2**2))
echo $a
```

output of bash script(file10.sh)

```
-7
```

4

sm script(file10.sm)

```
@
echo $((-7))
a=$((-2**2))
echo $a
@
```

output of sm script(file10.sm)

```
-7
a=4
Result=4, Return status=0(success)
```

bash script(file11.sh)

```
#!\bin\bash
var=$(((2+5**7--+-5*8)<<2*5))
echo $var
```

output of bash script(file11.sh)

```
79961088
```

sm script(file11.sm)

```
@
var=$(((2+5**7--+-5*8)<<2*5))
echo $var
@
```

output of sm script(file11.sm)

```
var=79961088
Result=13, Return status=0(success)
```

bash script(file12.sh)

```
#!\bin\bash
a=5
b=$(($a**~5<<7^2))
echo $b
```

output of bash script(file12.sh)

```
file12.sh: line 3: 5**~5<<7^2: exponent less than 0 (error token is "<<7^2")
```

sm script(file12.sm)

```
@
a=5
b=$(($a**~5<<7^2))
echo $b
@
```

output of sm script(file12.sm)

```
Error:negative exponent
Result=4214649(garbage) , Return Status=-1(failure)
```

bash script(file13.sh)

```
#!\bin\bash
a=7
b=9
c=8
d=$(($a<=$b&&$c))
echo $d
```

output of bash script(file13.sh)

```
1
```

sm script(file13.sm)

```
@
a=7
b=9
c=8
d=$(($a<=$b&&$c))
echo $d
@
```

output of sm script(file13.sm)

```
d=1
Result=4, Return status=0(success)
```

bash script(file14.sh)

```
#!\bin\bash
v=6
b=$v
```

```
echo $b
```

output of bash script(file14.sh)

```
6
```

sm script(file14.sm)

```
@
v=6
b=$v
echo $b
@
```

output of sm script(file14.sm)

```
b=6
Result=4, Return status=0(success)
```

bash script(file15.sh)

```
#!\bin\bash
v=$((7||8||5))
b=$v
echo $b
c=$(($v&&7||$b))
echo $((-$c))
```

output of bash script(file15.sh)

```
1
-1
```

sm script(file15.sm)

```
@
v=$((7||8||5))
b=$v
echo $b
c=$(($v&&7||$b))
echo $((-$c))
@
```

output of sm script(file15.sm)

```
b=1
-1
Result=3, Return status=0(success)
```

bash script(file16.sh)

```
#!/bin/bash
v=8
c=0
d=$(($v/$c))
#unreachable part below
echo $d
```

output of bash script(file16.sh)

```
file16.sh: line 4: 8/0: division by 0 (error token is "0")
```

sm script(file16.sm)

```
@
        v=8
        c=0
        d=$(($v/$c))

        #unreachable part below
        echo $d
@
```

output of sm script(file16.sm)

```
Error:division by zero error
Result=4214626(garbage) , Return Status=-1(failure)
```

bash script(file17.sh)

```
#!/bin/bash
_var_1_9=22
_var_9_2=7

_in_teger_part=$(($_var_1_9/$_var_9_2)) #integer division
remainder=$(($_var_1_9%$_var_9_2)) #modular division

echo $_in_teger_part
echo $remainder
```

output of bash script(file17.sh)

```
3
1
```

sm script(file17.sm)

```
@
        _var_1_9=22
        _var_9_2=7

        _in_teger_part=$(($_var_1_9/$_var_9_2)) #integer division
        remainder=$(($_var_1_9%$_var_9_2)) #modular division

        echo $_in_teger_part
        echo $remainder
@
```

output of sm script(file17.sm)

```
_in_teger_part=3
remainder=1
Result=12, Return status=0(success)
```