

Homework 4 redone midterm

Question 3. Calculator

The screenshot shows the OnlineGDB website in a web browser. The browser's address bar displays `https://www.onlinegdb.com`. The website's header includes navigation links: `Run`, `Debug`, `Stop`, `Share`, `Save`, and `Beautify`. The language is set to `Bash`. The left sidebar contains links for `IDE`, `My Projects`, `Classroom` (marked as new), `Learn Programming`, `Programming Questions`, `Sign Up`, and `Login`. Below these are social media icons for Facebook and Twitter, and a button for `+ 120K`. The main content area shows a Bash script for a calculator program. The script is as follows:

```
main.bash
40 elif [$equation == "cancel"]
41 then
42 answer="no"
43 echo "This program is over"
44 elif [ $equation == "clear" ]
45 then
46 answer=""
47 echo "Program has been cleared"
48 echo "Please enter an equation, or cancel to exit the program"
49 read equation
50 if [ $equation == "" ]
51 then
52 echo "3 + 3"
53 echo 6
54 echo "Please enter an equation, or cancel to exit the program"
55 read equation
56 if [ $equation == "" ]
57 then
58 echo "3 - 3"
59 echo 0
60 echo "Please enter an equation, or cancel to exit the program"
61 read equation
62 if [ $equation == "" ]
63 then
64 echo "3 * 3"
65 echo 9
66 echo "Please enter an equation, or cancel to exit the program"
67 read equation
68 if [ $equation == "" ]
69 then
70 echo "3 / 3"
71 echo 1
72 echo "Please enter an equation, or cancel to exit the program"
73 read equation
74 if [ $equation == "" ]
75 then
76 echo "13 % 3"
77 echo 1
78 echo "Please enter an equation, or cancel to exit the program"
79 read equation
```

The output of the program is displayed in the console area, showing the results of the calculations and the prompts for the user to enter an equation. The output is as follows:

```
Program has been cleared
Please enter an equation, or cancel to exit the program
3 + 3
6
Please enter an equation, or cancel to exit the program
3 - 3
0
Please enter an equation, or cancel to exit the program
3 * 3
9
Please enter an equation, or cancel to exit the program
3 / 3
1
Please enter an equation, or cancel to exit the program
13 % 3
1
Please enter an equation, or cancel to exit the program
```

The bottom of the screenshot shows the Windows taskbar with the search bar, task view button, and several open applications (Chrome, VS Code, Word). The system tray shows the temperature as 59°F and the time as 4:53 PM on 11/19/2021.

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https://www.onlinegdb.com

OnlineGDB beta
online compiler and debugger for c/c++
code, compile, run, debug, share.

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main.bash

```
1 #!/bin/bash
2 #Faisal Musa 002-39-6860
3 echo "Welcome to Calculator"
4 answer="yes"
5 while [ $answer == "yes" ]
6 do
7 echo "Please enter an equation, or cancel to exit the program"
8 read equation
9
10 if [[ $equation =~ [0-9]*\+[0-9]* ]]
11 then
12 num1=`echo $equation | awk '{print $1}'`
13 num2=`echo $equation | awk '{print $3}'`
14 echo $(( $num1+$num2 ))
15
16 elif [[ $equation =~ [0-9]*\-[0-9]* ]]
17 then
18 num1=`echo $equation | awk '{print $1}'`
19 num2=`echo $equation | awk '{print $3}'`
20 echo $(( $num1-$num2 ))
21
22 elif [[ $equation =~ [0-9]*\*[0-9]* ]]
23 then
24 num1=`echo $equation | awk '{print $1}'`
25 num2=`echo $equation | awk '{print $3}'`
26 echo $(( $num1*$num2 ))
```

input

Welcome to Calculator
Please enter an equation, or cancel to exit the program
cancel
This program is over

Type here to search

5:02 PM 11/19/2021

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https://www.onlinegdb.com

OnlineGDB beta
online compiler and debugger for c/c++
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main.bash

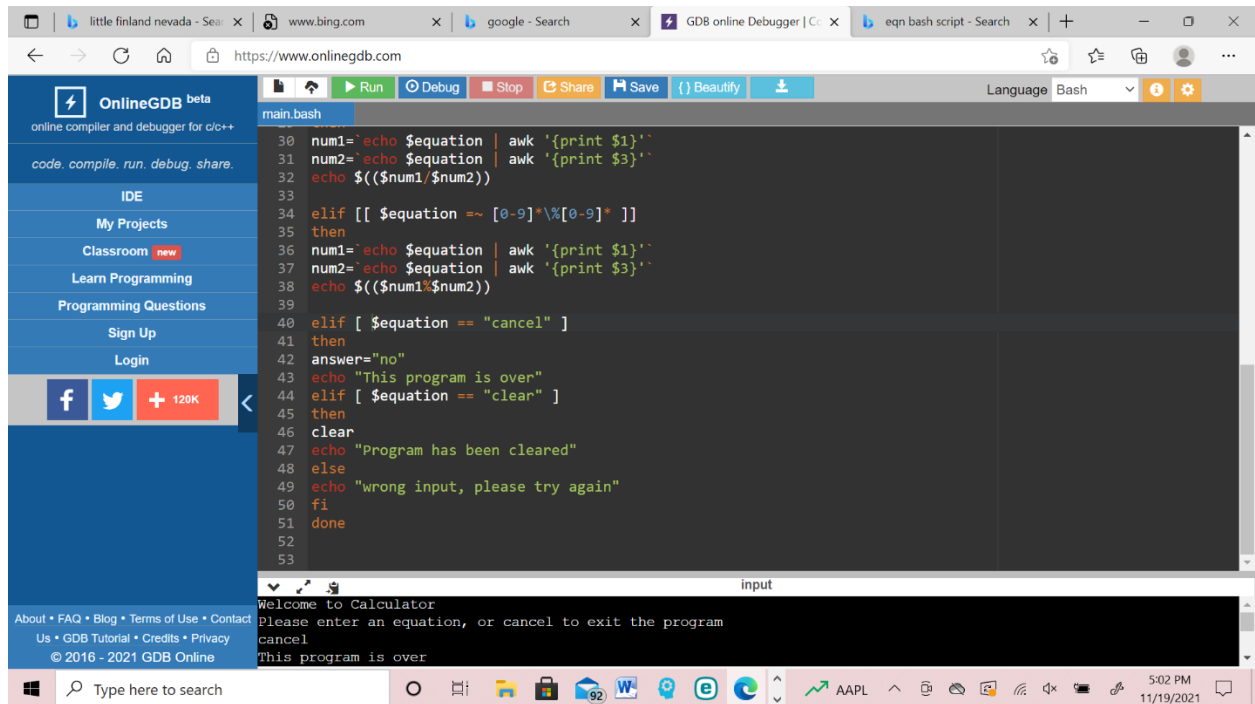
```
22 elif [[ $equation =~ [0-9]*\/[0-9]* ]]
23 then
24 num1=`echo $equation | awk '{print $1}'`
25 num2=`echo $equation | awk '{print $3}'`
26 echo $(( $num1/$num2 ))
27
28 elif [[ $equation =~ [0-9]*\|[0-9]* ]]
29 then
30 num1=`echo $equation | awk '{print $1}'`
31 num2=`echo $equation | awk '{print $3}'`
32 echo $(( $num1|$num2 ))
33
34 elif [[ $equation =~ [0-9]*%\[0-9]* ]]
35 then
36 num1=`echo $equation | awk '{print $1}'`
37 num2=`echo $equation | awk '{print $3}'`
38 echo $(( $num1%$num2 ))
39
40 elif [ $equation == "cancel" ]
41 then
42 answer="no"
43 echo "This program is over"
44 elif [ $equation == "clear" ]
45 then
46 clear
```

input

Welcome to Calculator
Please enter an equation, or cancel to exit the program
cancel
This program is over

Type here to search

5:02 PM 11/19/2021



Code for Calculator

```
#!/bin/bash
```

```
#Faisal Musa 002-39-6860
```

```
echo "Welcome to Calculator"
```

```
answer="yes"
```

```
while [ $answer == "yes" ]
```

```
do
```

```
echo "Please enter an equation, or cancel to exit the program"
```

```
read equation
```

```
if [[ $equation =~ [0-9]*\+[0-9]* ]]
```

```
then
```

```
num1=`echo $equation | awk '{print $1}'`
```

```
num2=`echo $equation | awk '{print $3}'`
```

```
echo $(( $num1+$num2 ))
```

```
elif [[ $equation =~ [0-9]*\-[0-9]* ]]
```

```
then
```

```
num1=`echo $equation | awk '{print $1}'`
```

```
num2=`echo $equation | awk '{print $3}'`
```

```
echo $(( $num1-$num2 ))
```

```
elif [[ $equation =~ [0-9]*\*[0-9]* ]]
```

```
then
```

```
num1=`echo $equation | awk '{print $1}'`
```

```
num2=`echo $equation | awk '{print $3}'`
```

```
echo $(( $num1*$num2 ))
```

```
elif [[ $equation =~ [0-9]*\/[0-9]* ]]
```

```
then
```

```
num1=`echo $equation | awk '{print $1}'`
```

```
num2=`echo $equation | awk '{print $3}'`
```

```
echo $(( $num1/$num2 ))
```

```
elif [[ $equation =~ [0-9]*\%[0-9]* ]]
```

```
then
```

```
num1=`echo $equation | awk '{print $1}'`
```

```
num2=`echo $equation | awk '{print $3}'`
```

```
echo $(( $num1%$num2))
```

```
elif [ $equation == "cancel" ]
```

```
then
```

```
answer="no"
```

```
echo "This program is over"
```

```
elif [ $equation == "clear" ]
```

```
then
```

```
clear
```

```
echo "Program has been cleared"
```

```
else
```

```
echo "wrong input, please try again"
```

```
fi
```

```
done
```