**Task 01:**

#!/bin/bash

echo "Please give me a valid BRACU ID"  
read id

length=${#id}

if [ $length = 8 ];  
 then  
 year="20${id:0:2}"  
 if [ ${id:2:1} -eq 1 ];  
 then semester="Spring"  
 elif [ ${id:2:1} -eq 2 ];  
 then semester="Fall"  
 elif [ ${id:2:1} -eq 3 ];  
 then semester="Summer"  
 else  
 echo "Invalid BRACU ID"  
 exit  
 fi

if [ ${id:3:2} -eq 01 ];  
 then department="CSE"  
else  
 department="other"  
fi

else  
 echo "Invalid BRACU ID"  
 exit

fi

if [ $department = "CSE" ];  
 then echo "The student is from the Dept. of CSE enrolled in $semester $year."  
else  
 echo "The student is not from the Dept. of CSE."  
fi

**Code Link of Task 01:** [**https://replit.com/@mahmud202/Lab-Assignment-02#task01.sh**](https://replit.com/@mahmud202/Lab-Assignment-02#task01.sh)

**Task 02:**

for filename in def/\*.txt;  
do  
 echo "Muhtasim Mahmud" >> "$filename"  
done

/// There is a directory named “def”. In that directory there are some .txt files. This shell script is adding my name end of the every .txt file in the directory named “def”.

**Code Link for Task 02:** [**https://replit.com/@mahmud202/Lab-Assignment-02#task02.sh**](https://replit.com/@mahmud202/Lab-Assignment-02#task02.sh)

**Task 03:**

#!/bin/bash

echo "Please give me a number:"  
read num  
  
if [ "$num" -eq 1 ] || [ "$num" -eq 7 ];  
 then echo "Happy Number"  
 exit  
fi

sum=$num   
x=$num  
  
while [ "$sum" -gt 9 ];  
do  
 sum=0  
 while [ "$x" -gt 0 ];  
 do  
 rem=$(($x % 10 ))  
 sum=$(($sum + $(($rem \* $rem ))))  
 x=$(($x / 10))  
 done

if [ "$sum" -eq 1 ];  
 then echo "Happy number"  
 exit  
 fi  
 x=$sum  
done

if [ "$sum" -eq 7 ];  
 then echo "Happy number"  
else  
 echo "Not Happy number"

fi

**Code Link for Task 03:** [**https://replit.com/@mahmud202/Lab-Assignment-02#task03.sh**](https://replit.com/@mahmud202/Lab-Assignment-02#task03.sh)

**Task 04:**

#!/bin/bash  
  
echo "Please give me a number"  
read a

if [ $(($a%3)) != 0 ] && [ $(($a%2)) != 0 ];  
 then echo "Hola"

elif [ $(($a%3)) == 0 ] && [ $(($a%2)) == 0 ];  
 then echo "Hello"

elif [ $(($a%3)) == 0 ] || [ $(($a%2)) == 0 ];  
 then echo "Nihao"

fi

**Code Link for Task 04:** [**https://replit.com/@mahmud202/Lab-Assignment-02#task04.sh**](https://replit.com/@mahmud202/Lab-Assignment-02#task04.sh)

**Task 05:**

#!/bin/bash

function add(){  
 echo $(($1 + $2))  
}

function subtract(){  
 echo $(($1 - $2))  
}

function multiply(){  
 echo $(($1 \* $2))  
 }

function divide(){  
 echo $(($1 / $2))  
 }

echo "What type of operation you want to do?"  
read operation  
  
echo "Operand 1:"  
read Operand1

echo "Operand 2:"  
read Operand2

if [ "$operation" == '+' ];  
 then add Operand1 Operand2  
elif [ "$operation" == '-' ];  
 then subtract Operand1 Operand2  
elif [ "$operation" == '\*' ];  
 then multiply Operand1 Operand2  
elif [ "$operation" == '/' ];  
 then divide Operand1 Operand2  
fi

**Code Link for Task 05:** [**https://replit.com/@mahmud202/Lab-Assignment-02#task05.sh**](https://replit.com/@mahmud202/Lab-Assignment-02#task05.sh)