**Assignment 2**

**Ans to the ques no 1**

#! /bin/bash

echo "Enter your annual income : "

read income

if [ $income -lt 240000 ] || [ $income -eq 240000 ];

then

echo " TAX : 0"

elif [ $income -lt 540000 ] || [ $income -eq 540000 ];

then

$p\_amount =$(( $income - 240000 ))

amt =$(( $p\_amount \* 10 ))

tax=$(( $ amt / 100))

echo " TAX : $tax "

elif [ $income -lt 720000 ] || [ $income -eq 720000 ];

then

p\_amount=$(( $income - 540000 ))

amt =$(( $p\_amount \* 20 ))

tax=$(( $ amt / 100))

pay=$(($tax + 30000 ))

echo " TAX : $pay "

elif [ $income -gt 720000 ];

then

p\_amount=$(( $income - 720000 ))

amt=$(( $p\_amount \* 30 ))

tax=$(( $ amt / 100))

pay=$(( $tax + 66000 ))

echo " TAX : $pay "

fi

**Ans to the ques no 2**

#!/bin/bash

echo "Enter a number"

read input

if [ $(($input % 5)) -eq 0 ] && [ $(($input % 2)) -eq 0 ];

then echo "NO"

elif [ $(($input % 5)) -eq 0 ] || [ $(($input % 2)) -eq 0 ];

then echo "YES"

else

echo "IGNORE"

fi

**Ans to the ques no 3**

#!/bin/bash

echo "Enter a number"

read num

flag=false

for ((i=2; i <= num/2; i++))

do

if [ $(($num % i)) -eq 0 ];

then flag=true

break

fi

done

if $flag ;

then echo "$num is not a prime number."

else

echo "$num is a prime number."

fi

**Ans to the ques no 4**

#!/bin/bash

echo "Which operation would you like to do"

read action

echo "Enter operand 1"

read op1

echo "Enter operand 2"

read op2

function add () {

echo "The result is $(($1 + $2))"

}

function sub () {

echo "The result is $(($1 - $2))"

}

function mul () {

echo "The result is $(($1 \* $2))"

}

function div () {

echo "The result is $(($1 / $2))"

}

if [ "$action" = "+" ];

then add $op1 $op2

elif [ "$action" = "-" ];

then sub $op1 $op2

elif [ "$action" = "\*" ];

then mul $op1 $op2

elif [ "$action" = "/" ];

then div $op1 $op2

fi

**Ans to the ques no 5**

#!/bin/bash

echo "Enter a number"

read num

num1=$num

size=${#num}

sum=0

mod=0

sumx=0

for ((i=0; i < size;i++));

do

mod=$(($num%10))

sumx=$(($mod\*\*2))

sum=$(($sumx+$sum))

num=$(($num/10))

done

size=${#sum}

mod=0

sumx=0

res=0

for ((i=0; i < size;i++));

do

mod=$(($sum%10))

sumx=$(($mod\*\*2))

res=$(($sumx+$res))

sum=$(($sum/10))

done

if [ "$res" = 1 ];

then echo "$num1 is a happy number"

elif [ "$res" = 4 ];

then echo "$num1 is an unhappy number"

fi