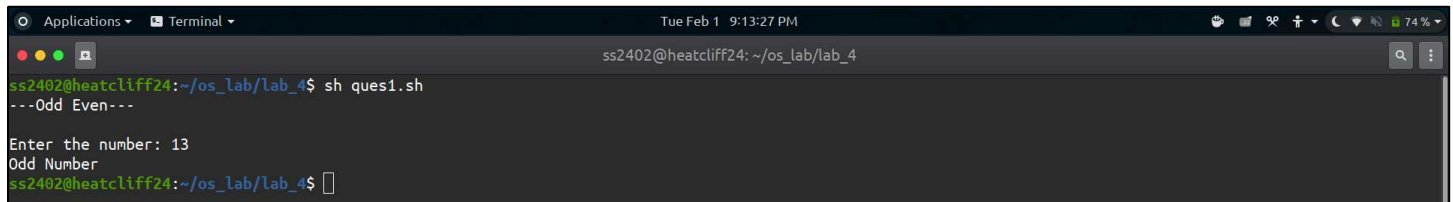# Lab Assignment-05

ROLL: 2005535 | NAME: SAHIL SINGH | DATE: 01/02/22

QUES 1: Write a script to check the number is odd or even.

SOLUTION:

```
echo "---Odd Even---\n"
read -p "Enter the number: " num
calc=`expr $num % 2`
case $calc in
    1) echo "Odd Number"
    ;;
    0) echo "Even Number"
    ;;
    *) echo "Wrong Input!!!"
    ;;
esac
```

OUTPUT:

```
ss2402@heatcliff24:~/os_lab/lab_4$ sh ques1.sh
---Odd Even---

Enter the number: 13
Odd Number
ss2402@heatcliff24:~/os_lab/lab_4$
```

QUES 2: WASS to perform all the arithmetic operation like 1: Sum, 2:Multiplication, 3:Subtraction, 4: division using switch structure.

SOLUTION:

```
echo "---Arithematic Operations---\n"
read -p "Enter first number: " num1
read -p "Enter second number: " num2
echo "\n1. Addition"
echo "2. Subtraction"
echo "3. Multiplication"
echo "4. Division\n"
read -p "Enter Choice: " choice
add=`echo "$num1 + $num2"|bc`
sub=`echo "$num1 - $num2"|bc`
mul=`echo "$num1 * $num2"|bc`
div=`echo "scale=2;$num1 / $num2"|bc`
case $choice in
    1) echo "Addition: $add"
    ;;
    2) echo "Subtraction: $sub"
    ;;
    3) echo "Multiplication: $mul"
    ;;
    4) echo "Division: $div"
    ;;
    *) echo "Wrong Input!!!"
    ;;
esac
```

OUTPUT:

QUES 3: WASS to find out the gradation of a student by entering the 3 subject's mark using switch structure, like O-Grade, E-Grade, A-Grade ....

SOLUTION:

```sh
echo "---Grading System---\n"
read -p "Enter subject 1 marks (out of 100): " sub1
read -p "Enter subject 2 marks (out of 100): " sub2
read -p "Enter subject 3 marks (out of 100): " sub3
sub_total=`expr $sub1 + $sub2 + $sub3`
div=`expr $sub_total / 30`
case $div in
    10) echo "O Grade\n"
    ;;
    9) echo "O Grade\n"
    ;;
    8) echo "E Grade\n"
    ;;
    7) echo "A Grade\n"
    ;;
    6) echo "B Grade\n"
    ;;
    5) echo "C Grade\n"
    ;;
    4) echo "D Grade\n"
    ;;
    *) echo "F Grade(Fail)\n"
    ;;
esac
```

OUTPUT:

QUES 4: WASS to enter a character and check the inputted character is number or alphabet, if alphabet the upper case or lower case letter or special operator.

SOLUTION:

```
echo "---Character Check---\n"
read -p "Enter a character: " char
case $char in
    [0-9]) echo "Numeric Input Detected!!!\n"
    ;;
    *) case $char in
        [a-z]) echo "Lower Case Alphabet Detected\n"
        ;;
        [A-Z]) echo "Upper Case Alphabet Detected\n"
        ;;
        *) echo "Special Character Detected!!!\n";;
    esac
esac
```
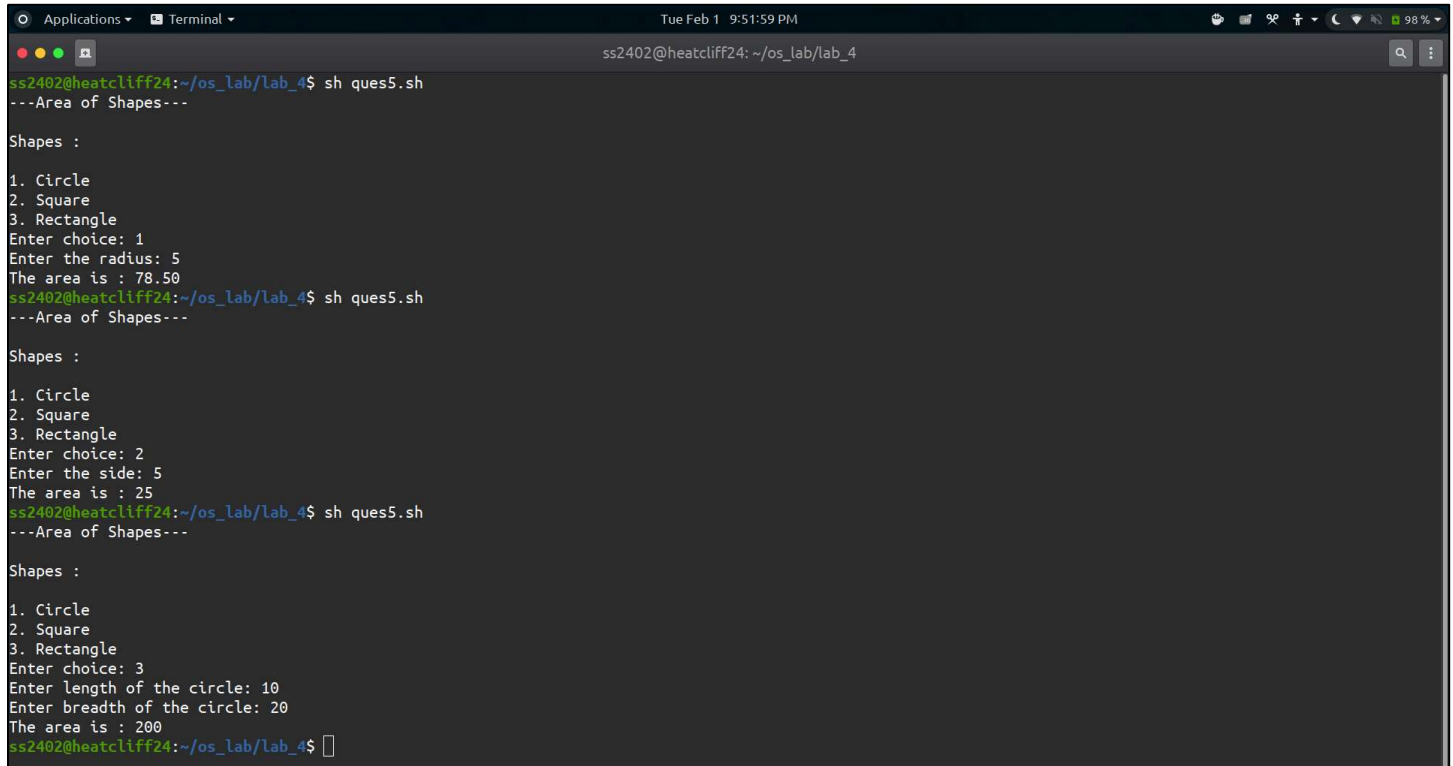
OUTPUT:

QUES 5: WASS to calculate area of circle, square and rectangle.

SOLUTION:

```
echo "---Area of Shapes---\n"
echo "Shapes :\n"
echo "1. Circle"
echo "2. Square"
echo "3. Rectangle"
read -p "Enter choice: " choice
case $choice in
    1) read -p "Enter the radius: " radius
    area=`echo "scale=2;3.14*$radius*$radius"|bc`
    ;;
    2) read -p "Enter the side: " side
    area=`echo "scale=2;$side*$side"|bc`
    ;;
    3) read -p "Enter length of the circle: " length
    read -p "Enter breadth of the circle: " breadth
    area=`echo "scale=2;$length*$breadth"|bc`
```

```
        ;;
    *) echo "Wrong Input!!!"
        ;;
esac
echo "The area is : $area"
```

OUTPUT:

```
ss2402@heatcliff24:~/os_lab/lab_4$ sh ques5.sh
---Area of Shapes---

Shapes :

1. Circle
2. Square
3. Rectangle
Enter choice: 1
Enter the radius: 5
The area is : 78.50
ss2402@heatcliff24:~/os_lab/lab_4$ sh ques5.sh
---Area of Shapes---

Shapes :

1. Circle
2. Square
3. Rectangle
Enter choice: 2
Enter the side: 5
The area is : 25
ss2402@heatcliff24:~/os_lab/lab_4$ sh ques5.sh
---Area of Shapes---

Shapes :

1. Circle
2. Square
3. Rectangle
Enter choice: 3
Enter length of the circle: 10
Enter breadth of the circle: 20
The area is : 200
ss2402@heatcliff24:~/os_lab/lab_4$
```