9 Calculator switch case

You are given integer inputs **N** , **a** and **b**. perform operations on **a** and **b** for different value of **N** like :-

If value of **N** is **10** -> **a + b**;

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);

    int n = scn.nextInt();
    int a = scn.nextInt();
    int b = scn.nextInt();

    switch(n){
        case 10:
            System.out.println(a+b);
            break;
        case 20:
            System.out.println(a-b);
            break;
        case 30:
            System.out.println(a*b);
            break;
        case 40:
            System.out.println(a%b);
            break;
        case 50:
            System.out.println(a/b);
            break;
        default :
            System.out.println("Enter a valid number");
            break;
    }
    /* Enter your code here. Read input from STDIN. Print output to STDOUT. Yo
}
```

n = 30
a = 3
b = 4

Introduction to char and inbuild functions and string

char is data type that store character inputs inside it

2 byte

char
- numeric value ('0' to '9')
- alphabet ('a' to 'z' & 'A' to 'Z')
- special characters ('$', '*', '#', '@', '>', '<', '=')
- escapes ('\t', '\b', '\e')
- emojis

Syntax

```
char ch = 'a';
```

= 2 bytes

2^{16}

```
char a = '1';
char ch1 = '$';
char ch = '\U—';
```

ASCII (0-255)

2^8 bits

char	int
'0'	48
'1'	49
'2'	50
'3'	51
⋮	⋮
'9'	57

'0' → int → machine language

'0' → 48 → 0101 1100

'A' → 65		'a' → 97
'B' → 66	⟷ 32	'b' → 98
'C' → 67		'c' → 99
⋮		⋮
'Z' → —		z →

'A' + 32 = 'a'

'a' - 32 = 'A'

Hot things

```
char ch = 'a';
Syso(ch) = a
```

97

```
int val = ch;
Syso(val);
```

ch: 2 byte, int: 4 byte

```
char ch = 'a';
int val = ch + 3;
Syso(val);
```

int 97+3 ⇒ 100

val: 100

(char)100 ⇓ d

```
int n = 97;
char ch = n;
```

⇒ error ⇓ lossy conversion.

n: 4 byte, ch: 2 byte

typecasting ⇓

```
char ch = (char)n;
```

```
char ch = '2';
int ans = ch + 100 - 48 = 50 + 100 = 150
Syso(ans);
```

'2' = 50

102

char ⇐ '2' = '2' − '0' = 2 (numeric)

= 50 − 48 = 2

50 − 48 ⇓ 2

1. char ch = 'a';
   int val = ch + 3;
   Syso(val) = 100

2. Type cast
   char ch = 'a';
   char val = (char)(ch+3);
   val = d

(char)(val) ← 100

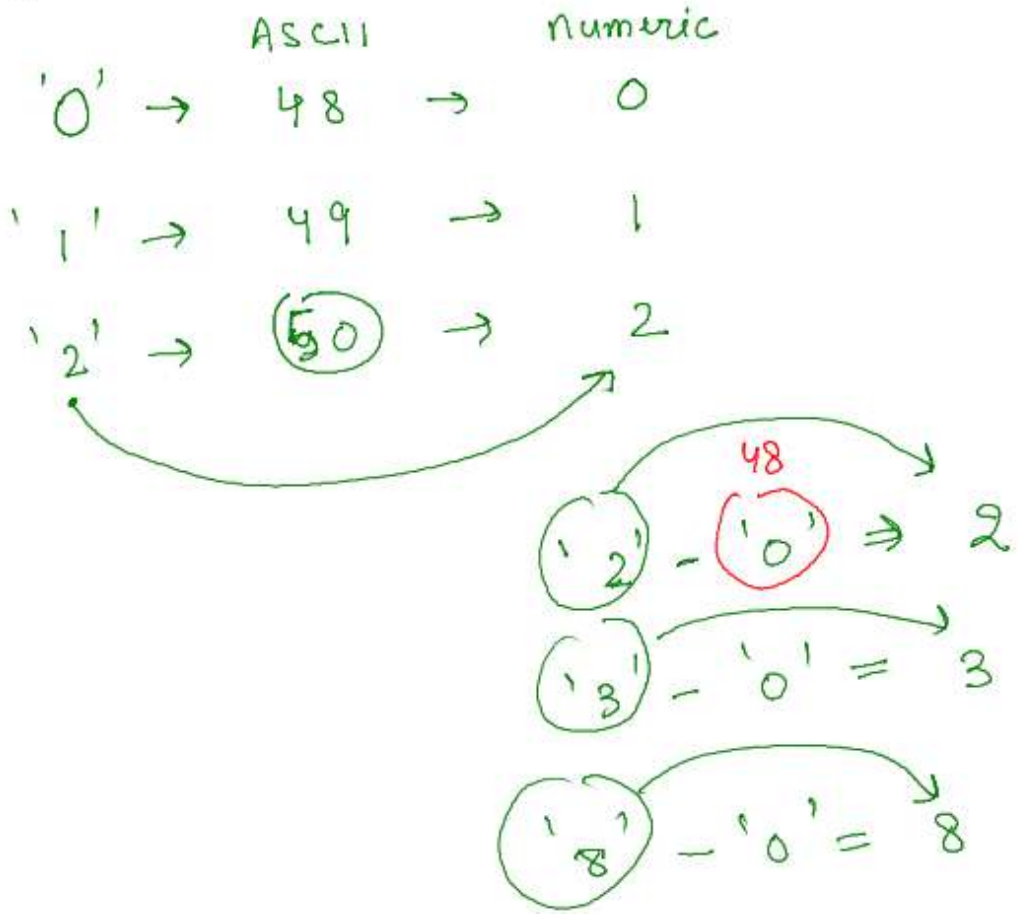
4. To convert a character digit in numeric digit
   Subtract with '0'

char ch = '12';
↓
"

3. Convert upper case with lower or lower with upper
   Upper to lower = add 32, lower to upper −32

```
    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        char ch = scn.next().charAt(0);

        if(ch >='a' && ch<='z'){
            if(ch >='a' && ch<='w'){
                char val = (char)(ch+3);
                System.out.println(val);
            }else{
                System.out.println("Can't jump");
            }
        }else if(ch >='A' && ch<='Z'){
            if(ch >='D' && ch<='Z'){
                char val = (char)(ch-3);
                System.out.println(val);
            }else{
                System.out.println("Can't jump");
            }
        }
        /* Enter your code here. Read input from STDIN. Print output to STDOUT. You
    }
}
```

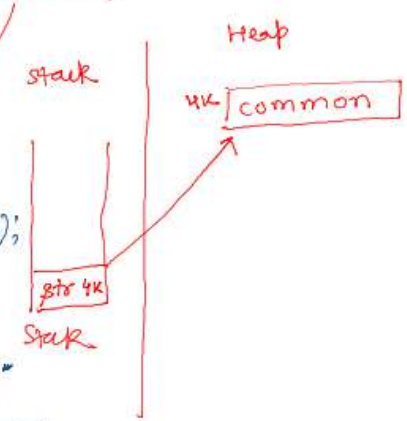
```
public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        char ch = scn.next().charAt(0);

        if(ch >='A' && ch<='Z'){
            System.out.println("Capital case");
        }else if(ch>='a' && ch<='z'){
            System.out.println("Small case");
        }else if(ch>='0' && ch <='9'){
            System.out.println("Digit");
        }else{
            System.out.println("None");
        }
        /* Enter your code here. Read input from STDIN. Print output to STDOUT
    }
}
```




```
ublic class Solution {

    public static void main(String[] args) {

        Scanner scn = new Scanner(System.in);
        char ch = scn.next().charAt(0);

        if(ch >='a' && ch<= 'z'){
            char val = (char)(ch - 32);
            System.out.println(val);
        }else{
            char val = (char)(ch + 32);
            System.out.println(val);
        }
        /* Enter your code here. Read input from STDIN. Print output to STD
    }
```

String

String str = "common";



next()
nextLine()

```
Scanner sen = new Scanner(System.in);
String str = sen.nextLine();
sysо(str);
```

"Kartik Rai"

Kartik Rai

.charAt(0)

str = "Kartik"
0 1 2 3 4 5

Scn.next()
⇓
char ch = String.charAt(0)
⇓
first character of that String

Str.charAt(0) = K

Str.charAt(3) = t

Char ch = str.charAt(0);

.charAt()

str.length() ⇒ Length of String = 6

"common"
0 ⇔ 5

= (4) ⇒ (3)

"WORD"
0123

str.charAt(5);
⇓
error Index out of bound error

```
public static void main(String[] args) {

    Scanner scn = new Scanner(System.in);
    String str = scn.nextLine();

    if(str.length()>=4){
        char ch = str.charAt(3);
        System.out.println(ch);
    }else{
        System.out.println("Small string");
    }
    /* Enter your code here. Read input from STDIN. Print output to STDO
}
}
```