

do-while loop

Syntax of for loop:-

```
for (initialization; condition; incre/decr)
{
    // body
}
```

Print Hello 5 times

```
for (int i=0; i<5; i++)
{
    printf("Hello");
}
```

```
for (int i=0; i<0; i++)
{
    printf("Hello");
}
```

i=0; 0<0 False

Syntax of while loop:-

```
while (condition)
{
    // body
}
```

```
int i=0;
while (i<5)
{
    printf("Hello");
    i++;
}
```

5 times
0 time

```
int i=0;
while (i<0)
{
    printf("Hello");
    i++;
}
```

i=0 0<0 False

Syntax of do-while loop:-

```
do
{
    // body
} while (condition);
```

```
int i=0;
do
{
    printf("Hello"); i++;
} while (i<0);
```

i=0 Hello 0<0 FALSE

// Runs atleast once

Print Hello 5 times using do-while loop

int i=0;

```
do
{
    printf("Hello");
    i++;
} while (i<5);
```

i=0	0<5	True	Hello
i=1	1<5	True	Hello
i=2	2<5	True	Hello
i=3	3<5	True	Hello
i=4	4<5	True	Hello
i=5	5<5	False	

loop	condition checked	Minimum Execution
for	before body	0
while	before body	0
do-while	After body	1

for → I know how many times I will run
 while → I will run while condition is true
 do-while → I will run code first then check condition

Program based on Calculator using do-while loop.

```
int a, b;
// Calculator
1. Add
2. Subtract
3. Multiply
4. Divide
5. Exit
```

Enter your choice: ←

← Take input from user for a & b

Enter your choice: ↵

↵ Take input from user for a & b

choice = 1 +
choice = 2 -
choice = 3 *
choice = 4 /
choice = 5 exit

✓ int a = 5; → float a = 5;
✓ int b = 3;

int result = a / b; 5 / 3 → 1.666
floating point
to store this value
we need float datatype.
result = 1

int / int → Result is int printf("%i", a / b); 5 / 3 → 1.666
float / int → Result is float printf("%f", a / b); 5 / 3 → 1.666
float / float → Result is float
int / float → Result is float

float a = 5.5;
int b = 3;

~~8.5~~
printf("%d", a + b); 5.5 + 3 = 8.5 / 8 printf("%f", a + b); → 8.5

printf("%d", a * b); 5.5 * 3 = 16.5 / 16 printf("%f", a * b); → 16.5

printf("%d", a / b); 5.5 / 3 = 1.83 / 1 printf("%f", a / b); → 1.83...