

Loop structures (while and for)

1. Dice rolls

a)

Write a program that counts how many dice rolls are needed to get a 6. Use **while** statement.

Dice rolls (while loop)

Roll dice

It took 2 rolls to get a 6.

Hints

- The idea of the code is:

```
initialize the count variable to one (let count = 1)
roll the die (let die = Math.floor((Math.random() * 6) + 1))
while (die is not equal to 6) {
    increase the count variable by one
    roll the die
}
show the answer
```

b)

Write a program that rolls dice 50 times and tells how many times the number 6 appeared. Use **for** statement.

Dice rolls (for loop)

Roll 50 dice

Number of sixes in 50 rolls: 8 (16%)

Hints

- The idea of the code is:

```
initialize the lkm variable to zero
for (var i=1; i<=50; i++) {
    roll the die
    if (die == 6)
        increase the lkm variable by one
}
show the answer
```

2. Insurance

Write a program that displays the insurance payment installments.

Insurance Installments

Insurance payment (€):

Number of installments:

Show Installments

1. 146.60€
2. 146.60€
3. 146.60€
4. 146.60€
5. 146.60€

Hints

- The idea of the code is:

```
calculate the amount of a single installment
initialize a text variable as an empty string
for numberOfInstallments {
    add a line of text to the text variable
}
show the answer
```

- A single installment is calculated `insurancePayment / numberOfInstallments`

3. Credit

Write a program that asks for the price of a purchase made on credit and the number of installment months.

The program prints the amount to be paid each month and the remaining credit after each month.

Credit installments

Purchase price (€):

Number of months:

Show installments

Month 1: Payment 166.50 €, remaining credit: 832.50 €
Month 2: Payment 166.50 €, remaining credit: 666.00 €
Month 3: Payment 166.50 €, remaining credit: 499.50 €
Month 4: Payment 166.50 €, remaining credit: 333.00 €
Month 5: Payment 166.50 €, remaining credit: 166.50 €
Month 6: Payment 166.50 €, remaining credit: 0.00 €

4. Savings

Write a program that shows the growth of savings.

The program asks for the savings goal, the monthly saving amount, and shows how the savings grow.

Savings growth

Savings goal (€):

Monthly saving (€):

Show Savings Growth

Month 1: Saved 150.00 €
Month 2: Saved 300.00 €
Month 3: Saved 450.00 €
Month 4: Saved 600.00 €