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| **!** | Genau wie Buchstaben können wir auch Bilder grafisch darstellen, dazu müssen wir uns aber, eine Kodierungsvorschrift ausdenken. |

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| **Aufgabe 1**  Male ein Bild, indem du die Kästchen schwarz ausmalst, oder weiß lässt. Überlege dir anschließend, wie du das Bild in Byte darstellen kannst. Antwort:  Weiß ist 02, Schwarz ist 12 oder umgekehrt.  Erste 3 Reihen: 001110002  001110002  001110002  *Tipp: ein Byte besteht aus 8 Bit.* | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |

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| **Aufgabe 2**  Jetzt brauchen wir nur noch Farben für ein richtiges Bild. Füge eine Möglichkeit hinzu, die Farben Rot und Blau einzubauen. Antwort:  Weiß ist 002, Schwarz ist 112, Blau ist 012, Rot ist 102.  Erste 3 Reihen: 00 00 01 012  01 00 00 002 00 00 10 012  10 00 00 002 00 00 01 012  01 00 00 002  *Tipp: Man kann auch mehr als ein Bit pro Kästchen verwenden* | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |

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| **Aufgabe 3**  Diesmal ist das Bild nicht mehr genau 8x8. Wie können wir jetzt wissen, an welcher Stelle die Zeile endet? Antwort:  In der ersten Reihe wird die Größe definiert  Erste 4 Reihen:  00 00 01 112 00 00 01 012  01 00 00 002  00 10 01 102  00 00 00 002  01 01 01 002  00 00 00 002  01 00 00 002  *Tipp: Mit Binärzahlen kann man auch größere Zahlen darstellen* | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |  | |