Викторина по информатике на тему: «Перевод систем счисления»

Задание 1.

Дешифруйте графическое изображение, представив десятичные числа из первого столбца в двоичном коде (каждую двоичную цифру запишите в отдельную клетку, клетки с нулями заштрихуйте)

|  |  |
| --- | --- |
| Десятичный код | Двоичный код |
| 417 |  |  |  |  |  |  |  |  |  |
| 301 |  |  |  |  |  |  |  |  |  |
| 158 |  |  |  |  |  |  |  |  |  |
| 260 |  |  |  |  |  |  |  |  |  |
| 354 |  |  |  |  |  |  |  |  |  |
| 336 |  |  |  |  |  |  |  |  |  |
| 297 |  |  |  |  |  |  |  |  |  |
| 450 |  |  |  |  |  |  |  |  |  |

Ответ\_\_\_\_\_\_\_\_\_\_\_

Решение:

|  |  |
| --- | --- |
| Десятичный код | Двоичный код |
| 417 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 301 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 |
| 158 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 260 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 354 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 336 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 297 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 450 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |

Ответ бабочка

Задание 2.

Постройте на координатной плоскости рисунок отметив и последовательно соединив точки (переведите все числа в десятичную систему счисления).

|  |  |  |  |
| --- | --- | --- | --- |
| $$x\_{q}$$ | $$y\_{q}$$ | $$x\_{10}$$ | $$y\_{10}$$ |
| $$E\_{16}$$ | $$110\_{2}$$ |  |  |
| $$110\_{2}$$ | $$20\_{8}$$ |  |  |
| $$100\_{2}$$ | $$22\_{8}$$ |  |  |
| $$10\_{2}$$ | $$E\_{16}$$ |  |  |
| $$110\_{2}$$ | $$111\_{2}$$ |  |  |
| $$0\_{8}$$ | $$11\_{8}$$ |  |  |
| $$100\_{2}$$ | $$0\_{8}$$ |  |  |
| $$111\_{2}$$ | $$11\_{2}$$ |  |  |
| $$B\_{16}$$ | $$10\_{2}$$ |  |  |
| $$F\_{16}$$ | $$11\_{2}$$ |  |  |
| $$11\_{16}$$ | $$101\_{2}$$ |  |  |
| $$22\_{8}$$ | $$10\_{8}$$ |  |  |
| $$15\_{16}$$ | $$11\_{8}$$ |  |  |
| $$24\_{8}$$ | $$11\_{8}$$ |  |  |
| $$13\_{16}$$ | $$A\_{16}$$ |  |  |
| $$22\_{8}$$ | $$A\_{16}$$ |  |  |
| $$E\_{16}$$ | $$10\_{8}$$ |  |  |
| $$14\_{8}$$ | $$A\_{16}$$ |  |  |
| $$14\_{8}$$ | $$D\_{16}$$ |  |  |
| $$11\_{8}$$ | $$22\_{8}$$ |  |  |
| $$110\_{2}$$ | $$24\_{8}$$ |  |  |
| $$110\_{2}$$ | $$20\_{8}$$ |  |  |



Ответ \_\_\_\_\_\_\_\_\_\_\_\_\_

Решение:

|  |  |  |  |
| --- | --- | --- | --- |
| $$x\_{q}$$ | $$y\_{q}$$ | $$x\_{10}$$ | $$y\_{10}$$ |
| $$E\_{16}$$ | $$110\_{2}$$ | 14 | 6 |
| $$110\_{2}$$ | $$20\_{8}$$ | 6 | 16 |
| $$100\_{2}$$ | $$22\_{8}$$ | 4 | 18 |
| $$10\_{2}$$ | $$E\_{16}$$ | 2 | 14 |
| $$110\_{2}$$ | $$111\_{2}$$ | 6 | 7 |
| $$0\_{8}$$ | $$11\_{8}$$ | 0 | 9 |
| $$100\_{2}$$ | $$0\_{8}$$ | 4 | 0 |
| $$111\_{2}$$ | $$11\_{2}$$ | 7 | 3 |
| $$B\_{16}$$ | $$10\_{2}$$ | 11 | 2 |
| $$F\_{16}$$ | $$11\_{2}$$ | 15 | 3 |
| $$11\_{16}$$ | $$101\_{2}$$ | 17 | 5 |
| $$22\_{8}$$ | $$10\_{8}$$ | 18 | 8 |
| $$15\_{16}$$ | $$11\_{8}$$ | 21 | 9 |
| $$24\_{8}$$ | $$11\_{8}$$ | 20 | 9 |
| $$13\_{16}$$ | $$A\_{16}$$ | 19 | 10 |
| $$22\_{8}$$ | $$A\_{16}$$ | 18 | 10 |
| $$E\_{16}$$ | $$10\_{8}$$ | 14 | 8 |
| $$14\_{8}$$ | $$A\_{16}$$ | 12 | 10 |
| $$14\_{8}$$ | $$D\_{16}$$ | 12 | 13 |
| $$11\_{8}$$ | $$22\_{8}$$ | 9 | 18 |
| $$110\_{2}$$ | $$24\_{8}$$ | 6 | 20 |
| $$110\_{2}$$ | $$20\_{8}$$ | 6 | 16 |



Ответ голубь

Задание 3.

Переведите числа и десятичной в шестнадцатиричную систему

 счисления. Ответы запишите в соответствующие клетки используя правила написания индекса.



Выполните действия и прочитайте слово.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Десятичный код |  | Шестнадцатиричный код |  | Буква |
| $$2081\_{10}$$ | = |  | - |  | **+** |  | = |  |
| $$129\_{10}$$ | = |  | - |  | = |  |
| $$0\_{10}$$ | = |  | = |  |
| $$2081\_{10}$$ | = |  | - |  | **+** |  | = |  |

Ответ\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Решение:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Десятичный код |  | Шестнадцатиричный код |  | Буква |
| $$2081\_{10}$$ | = |  | - |  | **+** |  | = | Н |
| $$129\_{10}$$ | = |  | - |  | = | Е |
| $$0\_{10}$$ | = |  | = | О |
| $$2081\_{10}$$ | = |  | - |  | **+** |  | = | Н |

Ответ неон