**Devoir 3 – IFT 1215**

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**Question 1.a)**

def base\_convert(num: int, base: int) -> int:

    if num == 0:

        return [0]

    if 2 > base < 9:

        raise ValueError('La base doit etre entre 2 et 9')

    result: list[int] = []

    while num > 0:

        result.append(num % base)

        num = num // base

    return result

def print\_base\_convert(num: int, base: int) -> None:

    result = base\_convert(num, base)

    for digit in result[::-1]:

        print(digit)

if \_\_name\_\_ == '\_\_main\_\_':

    num = int(input('Entrez un nombre en base 10 a convertir: '))

    base = int(input('Entrer la base vers laquelle convertir: '))

    print\_base\_convert(num, base)

**Question 1.c)**

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| Adresse | Instruction en langage d’assemblage | Instruction en langage machine | ACCU | IR | PC | MAR | MDR |
| 00 | IN | 901 | 0 | 901 | 01 | - | - |
| 01 | STO y | 318 | 5 | 318 | 02 | 18 | 5 |
| 02 | LDA x | 515 | 0 | 515 | 03 | 15 | 0 |
| 03 | ADD y | 118 | 5 | 118 | 04 | 18 | 5 |
| 04 | STO x | 315 | 5 | 315 | 05 | 15 | 5 |
| 05 | LDA il | 503 | 118 | 503 | 06 | 03 | 118 |
| 06 | ADD un | 116 | 119 | 116 | 07 | 16 | 1 |
| 07 | STO il | 303 | 119 | 303 | 08 | 03 | 119 |
| 08 | LDA c | 517 | 3 | 517 | 09 | 17 | 3 |
| 09 | SUB un | 216 | 2 | 216 | 10 | 08 | 2 |
| 10 | STO c | 317 | 2 | 317 | 11 | 17 | 2 |
| 11 | BRP l | 802 | 2 | 802 | 02 | - | - |