Python Programming Challenges

1. Accept any integer from the user. Display whether the number is divisible by 100 or not.

2. Write a program to check whether an entered number is odd / even.

3. Write a program to calculate sum of three numbers.

4. Accept principal amount, rate of interest, and duration from the user.
Display Interest Amount and Total Amount (Principal + Interest).
Example: $20000 principal amount, 5% interest, 10 years = $10000 interest, $30000 total

5. Accept the salary of an employee from the user. Calculate the net salary on the following basis (must account for income tax, how much will they get after taxes deducted? And how much for each tax)

Salary	Federal Tax	Provincial Tax
1 - 10000	10%	0%
10001 - 25000	15%	10%
25001 - 40000	20%	20%
40001 - 80000	25%	25%
80001+	30%	30%

6. Write a program to accept 10 values in an integer array. Display the number of odd, even, and negative numbers.

7. Display all prime numbers between 50 and 150.

8. Accept any two strings from the user. Display whether both the strings are equal or not.
(do not use any built in functions, must check this yourself character by character!)

9. Write a program to print the following patterns (using loops):

```
a)    1                b)    1
      1 2                    2 2
      1 2 3                  3 3 3
      1 2 3 4                4 4 4 4
      1 2 3 4 5              5 5 5 5 5
```

10. Using arrays, create a method of storing a student number, name, address and average grade for three students. Have the user enter this information, and print out the information at the end of your program.

11. Accept a numeric date from the user (year, month, day). Display the date in words. If the numbers are not valid, display an error message. Valid dates include any date between year 1900 and year 2020 inclusive.
Example: Year: 2015, Month: 7, Day: 27. Output: July twenty-seventh, two thousand and fifteen