

Fundamentals of CS and Programming

Lab 05: Functions Exercise set 2

exercises

1. Write a program that prints the results of the sums $9 + 10 + 11 + \dots + 21$, $37 + 39 + 40 + \dots + 50$ and $45 + 46 + 47 + \dots + 65$, $4 + 11 + \dots + 60$. Your program output should look like the following:

```
Python 3.4.4 Shell
File Edit Shell Debug Options Window Help
Python 3.4.4 (v3.4.4:737efcadf5a6, Dec 20 2015, 20:20:57)
AMD64) on win32
Type "copyright", "credits" or "license()" for more infor
>>>
===== RESTART: D:\python sources\sum.py =
9 + 10 + ... + 21 = 195
First summation done
37 + 38 + ... + 50 = 609
Second summation done
45 + 46 + ... + 65 = 1155
Third summation done
4 + 11 + ... + 60 = 156
Fourth summation done
>>> |
```

2. Define a boolean function `isPalindrome` that takes a number as an argument and returns True if the argument is palindrome and False otherwise. The `isPalindrome` function should delegate the task of computing reverse to another function. Also define a main function to check if your `isPalindrome` function is working correctly. your main function should continuously accept a number from the user and tell if the entered number is palindrome or not. But if the user enters a zero the program should terminate
3. Define a function `isArmstrong()` that checks if a number is Armstrong number. Definition Define a main function that print all the Armstrong Numbers less than 10,000 exploiting the `isArmstrong()`.
4. Define a function that computes factorial of a number recursively and check if it works correctly
5. Define a function that computes the i^{th} Fibonacci number recursively. define another function that call the Fibonacci function repeatedly to print the first n Fibonacci numbers.
6. Define a recursive function that converts an integer in base 10 into its binary equivalent and check if it works correctly.