

Assignment 3 Report

Question 1

1. This code is saved in q1.py
2. The program allows the user to input the name, petals and price of flowers. If the user doesn't know it, the user can just press enter to skip it. After the input, the user can retrieve the information.
3. Execute as followings:

```
Enter the name of the flower:Rose
Enter the petals of the flower:6
Enter the price of the flower:5
Flower's name is Rose
The numbers of petals of the flower is 6
Flower's price is 5.0
```

Question 2

1. This code is saved in q2.py
2. This program allows the user to input a standard algebraic notation and calculate the first derivative of the input. The input should be the standard algebraic notation. The output is the first derivative of the input in standard algebraic notation.
3. Execute as followings:

```
Enter the polynomial:-11*x^11+12*x^4-5*x^3-3*x+6
-121*x^10+48*x^3-15*x^2-3
PS D:\Python files> d:; cd 'd:\Python files'; &
cher' '53847' '--' 'd:\Python files\csc1001\12009
Enter the polynomial:-3*x^2+5x
-6*x+5
```

Question 3

1. This code is saved in q3.py
2. This program allows the user to input the number of river length, fishes, bears and steps. The input should be an integer number and the sum of fishes and bear should be smaller than or equal to the number of river length. The output would be a string type, showing the outcome of random movements. If the user enters invalid inputs such as float type, wrong number, string type, the program will ask the user to input again.
3. Execute as followings:

```
Enter the length of the river: 11
Enter the number of fishes: 2
Enter the number of bears: 3
Enter the steps of simulation:50
BNFBNNBNFN
BFNBNNBNFN
BFNNBNBNFN
```

```
NBBNNBBBNNBN
NBBNNBBBNNBN
NBBNNBBBNNBN
NBBNNBBBNNBN
BBBBNNBBBNNBN
BBBBNNBBBNNBN
BBBBNNBBBNNBN
Not enough space! Goodbye~
```

(Some of the procedures above have been omitted)

Comments are attached in the q3.py file together with the source code.