Question #1:

question #1.py

```
print("COMPUTE THE HYPOTENUSE")
def get_hypotenuse(side_1, side_2):
    total_hypo = (side_1 ** 2 + side_2 ** 2)** 0.5
    return total_hypo
    """
    This Function takes side_1 and side_2 and computes the hypotenuse from the users inputs

    """
def main():
    side_1 = float(input("Enter value for side 1:  "))
    side_2 = float(input("Enter valude for side 2:  "))

    side_3 = get_hypotenuse(side_1, side_2)
    print("The Hypotenuse is", side_3)

if __name__ == '__main__':
    main()
```

```
Python 3.7.4 (bundled)
>>> %Run 'question #1.py'

  COMPUTE THE HYPOTENUSE
  Enter value for side 1:  3
  Enter valude for side 2:  4
  The Hypotenuse is 5.0

>>> %Run 'question #1.py'

  COMPUTE THE HYPOTENUSE
  Enter value for side 1:  5
  Enter valude for side 2:  12
  The Hypotenuse is 13.0

>>> %Run 'question #1.py'

  COMPUTE THE HYPOTENUSE
  Enter value for side 1:  1
  Enter valude for side 2:  1
  The Hypotenuse is 1.41421356237
```

Question #2:

question #2.py

```
print("TAXI FARE")
def distance_travelled(distance):
    distance = (distance * 1000) / 140
    fare = 4.00 + (distance * 0.25)
    return fare



distance_in_km = float(input("Enter distance in Km:  "))
total_fare = distance_travelled(distance_in_km)
print("The total taxi fare is", (total_fare))
```

```
>>> %Run 'question #2.py'

  TAXI FARE
  Enter distance in Km:  0.139
  The total taxi fare is 4

>>> %Run 'question #2.py'

  TAXI FARE
  Enter distance in Km:  0.140
  The total taxi fare is 4.25

>>> %Run 'question #2.py'

  TAXI FARE
  Enter distance in Km:  5
  The total taxi fare is 12.928571
```

Question #3:

question #3.py *

```
print("SHIPPING CALCULATOR")
base_amount = 10.95

def shipping_total(items):
    total = base_amount + (items * 2.95)
    return total

items_amount = int(input("Enter the amount of items:  "))
items_amount -=1
total_amount = shipping_total(items_amount)
print("Your total is", total_amount)
```

```
Python 3.7.4 (bundled)
>>> %Run 'question #3.py'

  SHIPPING CALCULATOR
  Enter the amount of items:  1
  Your total is 10.95

>>> %Run 'question #3.py'

  SHIPPING CALCULATOR
  Enter the amount of items:  4
  Your total is 19.8
```

Question #4

question #4.py *

```
1  print("IS IT A VALID TRAINGLE")
2
3  def valid_tri(len_1, len_2, len_3):
4      if (len_1+len_2>len_3 and len_1+len_3>len_2 and len_2+len_3>len_1):
5          return False
6      else:
7          return True
8
9  a = int(input("Enter number:  "))
10 b = int(input("Enter number:  "))
11 c= int(input("Enter number:  "))
12
13 traingle = valid_tri(a,b,c)
14
15 if (traingle ==1):
16     print("Not a valid traingle")
17 else:
18     print("Valid Traingle")
19
```

```
>>> %Run 'question #4.py'

  IS IT A VALID TRAINGLE
  Enter number:  3
  Enter number:  3
  Enter number:  3
  Valid Traingle

>>> %Run 'question #4.py'

  IS IT A VALID TRAINGLE
  Enter number:  1
  Enter number:  2
  Enter number:  3
  Not a valid traingle

>>> %Run 'question #4.py'

  IS IT A VALID TRAINGLE
  Enter number:  22
  Enter number:  11
  Enter number:  10
  Not a valid traingle

>>> %Run 'question #4.py'

  IS IT A VALID TRAINGLE
  Enter number:  5
  Enter number:  13
  Enter number:  6
  Not a valid traingle

>>> %Run 'question #4.py'

  IS IT A VALID TRAINGLE
  Enter number:  5
  Enter number:  6
  Enter number:  4
  Valid Traingle
```

Question #5:

```
1  print("IS A NUMBER PRIME")
2  n = int(input("Enter a number:  "))
3  def isprime(number):
4      for i in range(2, number):
5          if number % i == 0:
6              return False
7          else:
8              return True
9
10 if isprime(n):
11     print('Not Prime')
12 else:
13     print('Prime')
```

Shell

```
>>> %Run 'question #5.py'

  IS A NUMBER PRIME
  Enter a number:  2
  Prime

>>> %Run 'question #5.py'

  IS A NUMBER PRIME
  Enter a number:  29
  Not Prime

>>> %Run 'question #5.py'

  IS A NUMBER PRIME
  Enter a number:  25
  Not Prime
```

Question #6

question #6.py

```
1  def isprime(number):
2      for i in range(2, number):
3          if number % i == 0:
4              return False
5      return True
6
7  def nextprime(number):
8      while isprime(number+1) == False:
9          number = number + 1
10     return number+1
11
12
13 n = int(input('Enter a number:  '))
14 print(nextprime(n))
```

Shell

```
>>> %Run 'question #6.py'

  Enter a number:  10
  11

>>> %Run 'question #6.py'

  Enter a number:  13
  17

>>> %Run 'question #6.py'

  Enter a number:  53
  59
```