COMPS202F JAVA PROGRAMMING FUNDAMENTALS

Examination Answer Book

Name : Jiawei Wang Student ID : 51239587o

Important Information:

(a) the use of this answer book is **optional**. Write down important information (name, student ID, question numbers and page numbers) if you are using your own paper.

(b) if **OLE fails**, backup link for question paper: http://stlinux.ouhk.edu.hk/~kwlee/s202f.pdf

(c) upload a copy of your answer book to OLE. Also send a copy to kwlee@**study**.ouhk.edu.hk

Question 1

(a) Corrections :

① remove the "<" ">" after the Q1PartA

② main (Double[] args) => main (String[] args).

(b)
```
Public class Camera {
    private String brand;
    prirate double price;
}
```

Question 2

(a) the correct value is (-1).(-2).(-3) = -6

the value of the above method is : 1

(b) Corrections :

① for (int i=from; i<-3; i++) => for (int i=from; i>=-3; i--).

Question 3

(a)

```
public double setDiameter (double d) {
    diameter = d;
    return diameter;
}

public double getDiameter () {
    return diameter;
}
```

(b)

```
public Circle (double d) {
    diameter = d;
}
```

(c) the output is:

20, 100

Question 4

(a)
```
public double enterDiameter(){
    System.out.println("Input diameter:");
    double d = input.nextDouble();
    while (d >=0) {
        diameter = d;
    }
    return diameter;
}
```

(b)
```
public String category(double diameter) {
    String Small = "Small";
    String Meidium = "Meidium";
    String Large = "Large";

    if (diameter < 20) {
        return Small;
    } else if (diameter >= 60) {
        return Large;
    } else {
        return Meidium;
    }
}
```

Question 5

(a) output:

1

-1

0

(b). the purpose is that by call the compareTo() method, to find the difference between the larger string and smaller string with argument string.

Question 6

```
public void print( int width).
{
    int d = width /2 ;
    for (int i=0 ; i≤ width ; i++ ) .
    {
      for (int j=0; j<i; j++ ) {
          system.out. print (" ");
      }
      system.out. print('*');
      if (i> width) {
          for (int k=width-2; k>=width; k-=2 ).
      {
          system.out.print (" ");
      }
      else { system.out.print('*'); }
    }
}
```

Question 7

(a) ID: S1239587 surname: Jiawei

output:

4 : Jiawei

587#.

(b). public double (ArrayList<Integer> numList)

{ double sum = 0; int t= 0;

for (int i : numList) {

if (i<40) { sum t= i; t++ }.

}

double arg = sum / i;

return arg;

}.

Question 8

```
public Set<Item> heavyItems (ItemI] item, double threshold ) {.
    Set Answer = new Hashset < Item> ( ).
    for ( Item I : item ) {
        if ( item.weight ≥ threshold ) {
        .Answer.add (item);
        }.
    }
    return Answer
}
```

Question 9

(a). public class CPU {

```
    private String ModelNumber;
    private double Price;

    public CPU(String modelNumber, double price) {
        ModelNumber = modelNumber;
        Price = price;
    }
}
```

(b)

```
import java.util.ArrayList;
public class ComputerShop {
    private ArrayList<CPU> cpuList;
}
```

(c).

```
public CPU findCPU(String aModelNumber) {
    for (CPU c : cpuList) {
        if (aModelNumber.equals(c.getModelNumber))
            return c;
    }
    return null;
}.
```

Question 9 (cont'd)

(d)

```
import java.util.HashSet;
public Set<CPU> lowPriceCPU (double bound ) {
    Set<CPU> Answer = new HashSet<CPU>();
    for ( CPU p : cpuList ) {
        if ( p.getPrice() ≤ bound ) {
            Answer.add(p);
        }
    }
    return Answer;
}
```

Question 10

(a)

```
public String rotate (String str, int k ) {
    for ( char c : str ) {
        int i= c ;
        if (i>120) {
          i= i-24 ;
        }else {
          i+= 2 ;
        }
       char ch = i ;
       S += ch ;
    }
    return S ;
}.
```

String S = "";