**WEEK 7 LAB TASKS**

**Task 0: Creating a Main Menu**

open a project named **PolymorphismDemoProject**. create a package named **methodOverloading**. create a class named **Test** with 7 **static** methods including one main method. the other six methods are **showTask1(),** **showTask2(),** **showTask3(),showTask4(),showTask5(),showTask6(),** inside main method display a main menu. ask user to enter choice and show result of each task accordingly. Once’s lets say choice is 5 entered by user you should the method of showTask5(). To make the menus use switch case. your output should be as follows:

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Main Menu Choose numbers accordingly to show the Tasks \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

1 >>:Task 1

2 >>:Task 2

3 >>:Task 3

4 >>:Task 4

5 >>:Task 5

6 >>:Task 6

Enter your choice (1 / 2 /3 / 4 /5 /6) : 1

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Task 1 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

value of char disp(char c) method = c

value of disp(int i) method = 200

value of disp(boolean bo) method = true

value of disp(double d) method = 10.0

value of disp(float f) method = 5.0

value of char disp(String mgs) method = hi

\*\*\*\*\*\*\*\*\* Main Menu Choose numbers accordingly to show the Tasks \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

1 >>:Task 1

2 >>:Task 2

3 >>:Task 3

4 >>:Task 4

5 >>:Task 5

6 >>:Task 6

Enter your choice : 6

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* This is Task 6 result \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

**Task 1: Method overloading with different types of parameters**

create a class named **DifferentTypesOfParameter**. Inside **DifferentTypesOfParameter** class define **six** **void** methods named **disp()** with different types of parameter in each **disp** method. the type of parameter in six disp() methods should be int, float, double, Boolean, char and String. invoke the method in the showTask1 which is in **Test** class. you should see the following output.

value of disp(char c) method = c

value of disp(int i) method = 200

value of disp(boolean bo) method = true

value of disp(double d) method = 10.0

value of disp(float f) method = 5.0

value of disp(String mgs) method = hi

**DifferentTypesOfParameter obj1 = new DifferentTypesOfParameter();**

**obj1.disp(‘c’);**

**Task 2: Method overloading with different number of parameters**

create a class named **DifferentNumberOfParameter** . Inside **DifferentNumberOfParameter** class define 5 **void** methods named **add** with different **number** parameter in each add method

invoke the method in the showTask2() method which is in Test class. you should see the following output.

value of add(int a) method = 10; a+a;5,5=10

value of add(int a,b) method = 10 return a+b;

value of add(int a,b,c) method = 15

value of add(int a, int b, int c, int d) method = 20

value of add(int a,int b,int c,int d, int e) method = 25

**Task 3: Method overloading with different sequence of parameter**

create a class named **DifferentSequenceOfParameters** write two overloading method to get the following output. invoke the method in the showTask3() method which is in Test class.

I’m the first definition of method dispid= 111 name = Rupai

I’m the second definition of method dispname= Tamim id = 112

method(int age, String name)

method(String name, int age)

**Task 4: Method overloading with different return type**

create a class named **DifferentReturnType**. define **four** methods named **add** with **different return type**. you should get the following output. all of your methods should be given return type accordingly. invoke the method in the showTask4() method which is in Test class. int add, double add, float add, void add

**The sum of (add(5, 5)) + add(5.0,5.0, 5.0) +add(5.0f, 5.f) is+(add(5, 5)) + add(5.0,5.0, 5.0) +add(5.0f, 5.f)**

**Task 5: do task no 3 again with constructor (constructor overloading)**

invoke the method in the showTask6() method which is in Test class.

**class A{**

**public A(int id, String name){System.. id, name;}**

**public A(String name, int id){System.. name, id;}**

**}**

**Task 6:**

Define a class named Human that will have 4 members variables named name, nationality, age and nid. inside Human class define a function named **describeHuman** . print the details of Human from the function. Your output should be as follows

Output from function:

Hi my name is asad i am 21 years old, i am from Bangladeshi my nid is 111122233

now define a constructor of Human class that will have parameters to get the same output and observe the differences between constructor and method. and write the differences between constructor and method.

Output from constructor:

Hi my name is arif i am 20 years old, i am from Bangladeshi my nid is 111122444

200