LAB # 10 Evaluation

Exercise: Write a program for the exam department which provide abstract class and method of Exam type which contains general methods related to exams and can be used by different department for conducting exams.

Code:
Main:

```java
package lab10;

public class Lab10 {

    public static void main(String[] args) {

        MCQExam mcq = new MCQExam("Math", 60, 100, 20, 4);
        EssayExam essay = new EssayExam("English", 90, 100, "The impact of social media on youth");

        mcq.displayDetails();
        mcq.conductExam();

        System.out.println();

        essay.displayDetails();
        essay.conductExam();
    }
}
```

ExamType (Abstract Class):

```java
package lab10;

public abstract class ExamType {

    String subject;
    int duration;
    int marks;

    public ExamType(String subject, int duration, int marks) {
        this.subject = subject;
        this.duration = duration;
        this.marks = marks;
    }
    abstract void conductExam();
    public void displayDetails() {
        System.out.println("Subject: " + subject);
        System.out.println("Duration: " + duration + " minutes");
        System.out.println("Marks: " + marks);
    }
}
```

MCQExam (Child Class):

```java
package lab10;

public class MCQExam extends ExamType {
```

```java
    int questions;
    int options;

    public MCQExam(String subject, int duration, int marks, int questions, int
options) {
        super(subject, duration, marks);
        this.questions = questions;
        this.options = options;
    }
    public void conductExam() {
        System.out.println("Conducting MCQ exam with " + questions + " questions and
" + options + " options each.");
    }
}
```

EssayExam (Child Class):

```java
package lab10;

public class EssayExam extends ExamType {

    String topic;
    public EssayExam(String subject, int duration, int marks, String topic) {
        super(subject, duration, marks);
        this.topic = topic;
    }
    public void conductExam() {
        System.out.println("Conducting essay exam on the topic: " + topic);
    }
}
```

Output:

```
--- exec-maven-plugin:3.1.0:exec (default-cli) @ Lab10 ---
Subject: Math
Duration: 60 minutes
Marks: 100
Conducting MCQ exam with 20 questions and 4 options each.

Subject: English
Duration: 90 minutes
Marks: 100
Conducting essay exam on the topic: The impact of social media on youth
------------------------------------------------------------------------
BUILD SUCCESS
------------------------------------------------------------------------
```

Abdullah