

Appendix B

The contents of this appendix refer to the full research paper conducted on the 49 most popular online learning resources. For the purpose of the table size, the paper is oriented in the landscape mode.

Popular eLearning Websites Comparison

The table below is comparing the most popular and known eLearning resources/websites with a pro/cons approach. At the end of the table, there is the “Java Just in Time” Book that has its up/downs. The book can be compared with the websites and there we can see that there is no interaction or responsiveness between the book and the user which is totally normal since it is a book. The good thing about the book is that it takes the beginner user and teach him every Java aspect, from a program simple as hello world and what is Hardware/Software to Generics and Data structures which makes it a great resource in terms of structure.

By analysing 49 websites there are problems with most of them, and one of these problems is interactivity and the responsive design which most of them lack. Other problems that appear in the websites with great user experience is the lack of content in the matter of java advanced topics since most of the content is pretty basic. Although the websites with great resources cost money as well, from 25\$ to 249£ which is a lot. The difficulty is easy to hard for most of them but mostly easy because of the lack of content. Most of them have a theory part but is either poor or a bunch of theory and documentation that will not outline the important parts of the java chapters presented. The practice content is mostly available but there is a significative number of websites that have hard code challenges or no real-time feedback at all, and there are websites with no practice content at all.

The aim of this project is to create a website where there will be responsive web design implemented and interactivity between the platform and the user, with quality and outlining content for every type of users, quizzes and practice exercises for the purpose of remembering and applying the theory, with a easy to hard approach in terms of difficulty level and all the content being free for students and other type of users.

Theory Content

In matter of theory content, the website should be able to provide enough information about a certain concept and have a structure that will make the user understand terms and techniques from the simplest to the hardest ones. A good course will explain these terms in a way that the user will not feel overwhelmed or bored.

Practice Content

The practice content refers to the amount of problems/exercises a user receives from a website so that the theory will be together with practice. By combining theory and practice, the user will be able to understand and have a better idea of the usability of the terms and techniques in real world. If the user will practice coding intensively then he/she will get better and use the techniques and terms better than just reading them. The main idea is that the user will see and try to solve different problems and situations that are not possible in theory since the number of problems and their solving is infinite.

Interactive design

When we talk about interactive design we refer to the fact that the website has a user friendly design, easy-to-use and made in such a way that even the inexperienced user will know how to use it and choose a path or a course. The user might receive trophies based on how much work and how much content he had completed. Examples of trophies might be even if the user is going on the website daily or at a certain interval, or even if the user is doing a daily challenge he/she might receive appreciation.

Difficulty

A **Novice Programmer** will need guidance and will start with the basics. They probably won't have had any previous experience or could be new to programming and as well struggle with some elements of the language. Without guidance they could struggle in understanding how java and programming works.

A **Competent Programmer** will have had experience, probably more than 2-3 years in the field and they might be able to tackle some tasks and most of them on their own. Sometimes they might need help or an idea of how to approach a certain problem.

An **Advanced Programmer** will have a significant amount of experience usually in excess of 5+ years. They will be confident in their daily work and be able to design solutions as well as easily completing tasks. They will almost certainly have leadership skills and be able to mentor the junior developers.

Difficulty Level	Topics
Novice	<ul style="list-style-type: none">• Basic Syntax• Basic Datatypes• Numbers• Characters• Strings• Variable Types• Basic Operators• Decision Making• Loops• Arrays• Date & Time• Methods• Files and I/O• Exceptions• Documentation

<p>Competent</p>	<ul style="list-style-type: none"> • Object & Classes • Modifier Types • Inner classes • Inheritance • Overriding • Polymorphism • Abstraction • Encapsulation • Collections
<p>Advanced</p>	<ul style="list-style-type: none"> • Interfaces • Packages • Data Structures • Generics • Serialization • Networking • Multithreading • Applet Basics

Table Grading

Interactive Design

0(No interactive content/static page) -->10(Great user experience - interactive content)

Practice Content

0(No quiz/Code challenge) -->10(Lot of Code challenges + Quizzes)

Theory Content

0(No theory at all) --> 10 (Full Java documentation)

	Interactive Design	Practice Content	Theory Content	Difficulty	Price	Pros	Cons
Androidauthority	1	0	3	Novice	Free	Easy and fast to read if you just need to know what is java but nothing more	No detail, no depth, no interactiveness, just a popular article
Beginnersbook	1	0	9	Novice - Competent	Free	Very good for its theory and pictures	Bad because there is no code challenge quiz or trophies or interactiveness that will drive the reader to use it more often

Best Programming Language For Me	1	0	1	Novice	Free	Explains why java is good and sends you to links categorised by the kind of resource it is(article, website)	Nothing on its own, it just sends you to other programming websites(popular ones)
Code.tutsplus	0	0	3	Novice	Free	No point, there are way better articles	It is popular but there is no practice content no interactivity
Codeavengers	7	9	7	Novice	Free	Very good for website development beginners	No Java tutorial even though it is very popular
Codecademy	9	10	6	Novice	Free/Paid	Interactive design that motivates you to come back	The bad thing is that it is simple, extremely simple especially in terms of java
Codechef	2	0	0	Novice	Free	Maybe it is good for the reference it has	Bad design, no original content, no code challenge or quiz
Codefights	10	10	0	Novice-Advanced	Free	Very nice looking with good programming challenges	No java theory or java based course

Codeforces	1	10	0	Advanced	Free	Good for pros	No interactive content, no theory nothing more than just an ugly challenge website
CodeMentor	0	0	0	Novice	Free	Good as reference website	Nothing original, just references
Coderbyte	7	10	1	Novice	Paid	Code challenges and videos	Poor website and content that have potential to be better but by now there are better alternatives
Codeschool	8	10	8	Novice	Paid	Interactive design and quizzes	No Java tutorial even if it is a popular and good website

Codewars	9	10	2	Novice-Advanced	Free	Good for improving programming skills but it is mostly for advanced users	In order to have an account you need to complete a code challenge in a programming language of your choice which is not for beginners since this project assumes that beginners with no programming experience will use a website to learn some
CodingBat	1	9	0	Novice-Advanced	Free	Good for practice	No java course just challenges and no interactive content
Computer Science Online	0	0	3	Novice	Free	Good for facts checking and getting reference	No java tutorial at all just references

Coursera	4	6	8	Novice-Advanced	Free/Paid	Variety of courses and the universities such as Stanford	Bad because the course content might be released weekly and the user needs to apply for a course which might start in a month or so, without having the choice of hovering over the course content and go to the topic he/she wants to
Edureka	2	4	7	Novice	Paid	A full java course	249£ to enrol and not that friendly platform
Edx	3	6	8	Novice-Advanced	Free/Paid	Diversity of courses to pick from	The courses are not interactive and the user might get bored fast.
Freecodecamp	0	8	7	Novice	Free	Web Development Bootcamp type	There is no java course
Hackerearth	7	9	6	Novice	Free	Good for beginners	No Java content

Hackerrank	8	9	5	Competent - Advanced	Free	A lot of code challenges and even job opportunities	The website is not for beginners and it might be hard for some people, even if you are pro
Hackr	0	0	0	Novice	Free	Nothing	Just an empty forum that claims that it can find you a java buddy to learn with
Homeandlearn	0	0	7	Novice	Free	Good java documentation and examples	No interactive content or practice content
IBM	0	2	8	Novice	Free	Good examples for the java topics	No code challenge, weak quizzes, poor structured and represented content. A potentially good tutorial that nobody cared about.
Introcs.cs.princeton	0	0	0	Novice	Free	Code for different programs in java	No tutorial at all
Javatpoint	0	0	8	Novice	Free	Integrated compiler that shows how the code runs	No practice content and poor interactive content

JavaWorld	0	0	8	Novice	Free	Good for revise	Bad because of the format, no code challenge or quizzes, no interactive content
KhanAcademy	8	7	7	Novice	Free	Good for beginners - Intro to computing	No java course
Learn Java Online	3	6	5	Competent	Free	It might be handy for some people	The big problem is the missing content, once you click on some chapters(Links) they will redirect you to a 500 error code
Learnxinyminutes	2	9	0	Novice-Advanced	Free	Good for practice	No java course or theory just a link to the Oracle documentation
Leetcode	2	9	0	Novice-Advanced	Free	Good for practice	Nothing involving a java course just some code challenges
Lynda	4	0	8	Novice-Advanced	Paid	It might help if you are interested in a certain java use but not a java basic to	No Java from easy to advanced tutorial with quizzes and/or code

						advanced website	challenges integrated
Mkyong	0	0	6	Novice - Competent	Free	If you need to check some certain things like stackoverflow	No tutorial or structure at all
NetBeans	0	0	2	Novice	Free	Nothing	I have no idea why this website exists, it is just a bunch of external links that are not useful at all
MIT Courseware	3	6	6	Novice	Free	It is good because of the simplicity and the examples given	No real-time feedback or challenge or quiz, no responsive web design at all
Oracle	0	0	10	Novice-Advanced	Free	It has all the Java concepts out there so it is best for checking a technique or keyword that you might not know or identify in a code	It is so detailed that a link will lead you to a list of links related to that and one link from that list will link you to a new list of links, basically making it pretty impossible to learn from.

Programiz	0	0	6	Novice	Free	Easy but poor and incomplete java tutorial	Incomplete and too easy, better alternatives
Project Euler	0	6	0	Advanced	Free	Good for improving the skills you already have and challenge yourself	Not a tutorial for beginners and most of its content is for pro users
Reddit	0	3	7	Novice-Advanced	Free	Good when in need of a certain answer for a certain situation	It has information and answers but not ordered(no path)
Sololearn	8	7	9	Novice	Free	Probably the best in this list because it is interactive, it has medium quantity and quality theory and quizzes	There can be more content and the quizzes can be longer and with more questions not just three or four per each chapter
Spoj	2	9	0	Novice-Advanced	Free	Good to practice programming	No theory for java

TeamTreehouse	10	7	7	Novice	Paid	It is very good but the Java content is not that much. Most of that courses are explaining the uses of Java in creating applications rather than teaching just Java.	There can be more content for Java as programming language rather than its applications and beside that there can be also more added code challenges and quizzes for each section.
Tech Gig	8	8	3	Novice	Free	Good to practice programming	No theory for Java just challenges
Tutorialspoint	2	0	9	Novice -Advanced	Free	Good when you need a term or technique explained but not for practicing	It should have interactiveness to motivate the reader and it should also have code challenges or quizzes.
Udacity	8	8	8	Novice-Advanced	Free/Paid	Easy to understand and learn new things that are happening	No Java from easy to advanced course, just an intro and then the java uses, similar to Teamtreehouse

Udemy	5	5	8	Novice	Free/Paid	Wide variety of courses	It does not provide a unique and great course, mostly a course advertisement website
Vogella	0	0	2	Novice - Advanced	Free	Covers most java terms and details	Just a website with a bunch of theory about java but no code challenges at all or even a quiz or so
Java Just in Time Book	0	9	10	Novice-Advanced	Paid	Covers the Java topics from HelloWorld to Generics and other advanced topics with good coursework practice	Sometimes involves code to be completed that is only available to UoM students. There is no E-learning in there, just the book and its normal format.

Table 1: Graded table based on the above marking scheme

	Interactive Design	Practice Content	Theory Content	Difficulty	Price	Pros	Cons
Androidauthority	Just a popular article on a website	Nothing to practice just some advice on how to run the code(theory)	An article with theory content but facile, just basic definitions and some examples	Easy	Free	Easy and fast to read if you just need to know what is java but nothing more	No detail, no depth, no interactiveness, just a popular article
Beginnersbook	No interactive or responsive Than just some pictures	No practice content	Very good and strong website in terms of theory content, from simple java to advanced topics	Easy - Medium - Hard	Free	Very good for its theory and pictures	Bad because there is no code challenge quiz or trophies or interactiveness that will drive the reader to use it more often
Best Programming Language For Me	No interactiveness just some infographics	No practice content	Explains why java is good to learn but nothing more and then sends you to some links	Easy	Free	Explains why java is good and sends you to links categorised by the kind of resource it is(article, website)	Nothing on its own, it just sends you to other programming websites(popular ones)

Code.tutsplus	No interactive content	No content for practice	Poor theory just an article basically that tries to cover Java language in a small web page	Easy	Free	No point, there are way better articles	It is popular but there is no practice content no interactivity
Codeavengers	Interactive website that even use a tool similar to Dreamweaver from Adobe in the website	Practice with code challenge	Videos that explain the definitions and uses	Easy	Free	Very good for website development beginners	No Java tutorial even though it is very popular
Codecademy	Interactive with trophies and popup boxes responsive	It is basically a compiler and you just type the code	Easy content not that hard or advanced at all	Easy	Free/20\$	Interactive design that motivates you to come back	The bad thing is that it is simple, extremely simple especially in terms of java
Codechef	Bad layout and no interactive content, just a bunch of boxes and details thrown on the page	No code challenge or practice involved	No theory involved just links to other websites that teach programming	Easy	Free	Maybe it is good for the reference it has	Bad design, no original content, no code challenge or quiz
Codefights	Beautiful design and a lot of interactive content, just beautiful	Code challenge based	No theory just practice for coding	Easy-Hard	Free	Very nice looking with good programming challenges	No java theory or java based course

Codeforces	Plain html with some css	Just challenges	No theory	Hard	Free	Good for pros	No interactive content, no theory nothing more than just an ugly challenge website
CodeMentor	No interactive content	No challenges	No theory just reference	Easy	Free	Good as reference website	Nothing original, just references
Coderbyte	Pretty interactive but not as good as teamtreehouse	Code challenges like Codewars	Poor theory presented in videos	Easy	Paid	Code challenges and videos	Poor website and content that have potential to be better but by now there are better alternatives
Codeschool	Interactive website with responsive web design and friendly interface	Practice by completing quizzes or code challenges, similar to Teamtreehouse	Enough theory to complete the code challenges but not complicated or advanced topics	Easy	20\$/month	Interactive design and quizzes but no Java tutorial	No Java tutorial even if it is a popular and good website

Codewars	Interactive and interesting website with trophies and achievements	Practice by completing code challenges	Not enough theory, rather made for medium to pro users	Hard	Free	Good for improving programming skills but it is mostly for pro users	In order to have an account you need to complete a code challenge in a programming language of your choice which is not for beginners since this project assumes that beginners with no programming experience will use a website to learn some
CodingBat	Plain html with some css	Practice by code challenge	No theory	Easy-Hard	Free	Good for practice	No java course just challenges and no interactive content
Computer Science Online	No interactive content	No practice content	A PRO reference based website with facts	Easy	Free	Good for facts checking and getting reference	No java tutorial at all just references

Coursera	Not a responsive design website, but a normal one with courses.	The practice part is either by submitting homework or assignments or in form of quizzes but that is different based on the course you pick	Depends on the university or the individual you picked the course from.	Easy-Medium-Hard	Free or 50\$ + Certificate	Good because of the variety of courses and the universities such as Stanford that teach them	Bad because the course content might be released weekly and the user needs to apply for a course which might start in a month or so, without having the choice of hovering over the course content and go to the topic he/she wants to
Ereduka	Little interactive content - poor	Assignments that each user should do them in his own environment	Good java theory with not that good structure	Easy	Expensive	A full java course	249£ to enrol and not that friendly platform
Edx	Interactive based on who teach that content - similar to Coursera	Practice content is mostly quizzes and code challenge that should be submitted as a file - no real-time checker	Theory different based on what course you pick	Easy-Hard	Free/Paid	Diversity of courses to pick from	The courses are not interactive and the user might get bored fast.
Freecodecamp	No interactive content	The website is code challenge based	Enough theory to learn something	Easy	Free	Web Development Bootcamp type	There is no java course

Hackerearth	Interactive content	The website is code challenge based	There is basic learning content	Easy	Free	Good for beginners	No Java content
Hackerrank	Interactive and responsive somehow	Practice by completing code challenges, similar to Code Wars	Theory enough to complete the code challenge but most of the content is for Novice - Pro	Medium-Hard	Free	A lot of code challenges and even job opportunities	The website is not for beginners and it might be hard for some people, even if you are pro
Hackr	No interactive content	No practice content	No Java theory, just an empty forum	Easy	Free	Nothing	Just an empty forum that claims that it can find you a java buddy to learn with
Homeandlearn	No interactive content	No practice content	Good java theory	Easy	Free	Good java documentation and examples	No interactive content or practice content
IBM	No interactive web design	A quiz at each end of a chapter that is not even a e-quiz, you should print it or put the answers on paper	Nice java theory but to formal	Easy	Free	Good examples for the java topics	No code challenge, weak quizzes, poor structured and represented content. A potentially good tutorial that nobody cared about.
Introcs.cs.princeton	No interactive content	No practice content	No Java theory, just a code repository	Easy	Free	Code for different programs in java	No tutorial at all

Javatpoint	No interactive content	No practice content	Good java theory	Easy	Free	Integrated compiler that shows how the code runs	No practice content and poor interactive content
JavaWorld	No interactive content, just article based	No code challenge	Theory in form of articles	Easy	Free	Good for quick checking	Bad because of the format, no code challenge or quizzes, no interactive content
KhanAcademy	Interactive and responsive design with achievements and trophies	Practice by doing code challenges or quizzes	Videos with teachers that tell you about the content	Easy	Free	Good for beginners - intro to computing	No java course
Learn Java Online	It does not give you any achievement and it is no responsive web design involved	You have a compiler in which there is java code to be completed	The theory is medium not so in depth and not enough for the code challenges	Medium	Free	It might be handy for some people	The big problem is the missing content, once you click on some chapters(Links) they will redirect you to a 500 error code
Learnxinyminutes	No interactive content just a compiler	Code challenge based	No theory	Easy-Hard	Free	Good for practicing	No java course or theory just a link to the Oracle documentation
Leetcode	No interactive content, just some links with code challenges	Code challenge based	No theory	Easy-Hard	Free	Good for practice	Nothing involving a java course just some code challenges

Lynda	Not that interactive website but a course list one	No code challenge or quiz	Videos with teachers that tell you about the content	Easy-Hard	Paid	It might help if you are interested in a certain java use but not a java basic to advanced website	No Java from easy to advanced tutorial with quizzes and/or code challenges integrated
Mkyong	No interactive content	No code challenge	Theory structure is a mess no easy to advanced topics, just random topics about java uses	Easy-Hard	Free	If you need to check some certain things like stackoverflow	No tutorial or structure at all
NetBeans	No interactive content	No code challenge	Horrible content, lack of a LOT of resources	Easy	Free	Nothing	I have no idea why this website exists, it is just a bunch of external links that are not useful at all
MIT Courseware	Not that interactive website but a course list one with PDFs	Assignments that each user should do them in his own environment	Theory simple explained in PDF slides	Easy	Free	It is good because of the simplicity and the examples given	No real-time feedback or challenge or quiz, no responsive web design at all

Oracle	Not interactive at all	No code challenge or quizz	The source of Java documentation	Easy-Hard	Free	It has all the Java concepts out there so it is best for checking a technique or keyword that you might not know or identify in a code	It is so detailed that a link will lead you to a list of links related to that and one link from that list will link you to a new list of links, basically making it pretty impossible to learn from.
Programiz	No interactive content	No code challenge	Basic java course with some details and examples but nothing advanced	Easy	Free	Easy but poor and incomplete java tutorial	Incomplete and too easy, better alternatives
Project Euler	No interactive content	Basically a website with code challenge but no website compiler, you do it on your environment	No Java theory, just challenges	Hard	Free	Good for improving the skills you already have and challenge yourself	Not a tutorial for beginners and most of its content is for pro users
Reddit	No interactive web design	No code challenge, maybe just tasks to complete on your own environment	A forum similar to Stackoverflow	Easy-Hard	Free	Good when in need of a certain answer for a certain situation	

Sololearn	It is interactive with trophies a certificate for each course and responsive based on your entries	Code that needs to be completed after each part of theory	Structured in chapters and there is enough theory to know java at a medium to advanced level	Easy	Free	Probably the best in this list because it is interactive, it has medium quantity and quality theory and quizzes	There can be more content and the quizzes can be longer and with more questions not just three or four per each chapter
Spoj	Not that much interactivity	Code challenge based	Does not provide theory just code challenges	Easy-Hard	Free	Good to practice programming	No theory for java
TeamTreehouse	Very interactive and responsive design from trophies earned to entry responses	Quizzes and code challenges for each chapter or section of a course	Structured in paths or courses the website has videos with instructors that will explain the concepts.	Easy	25\$/50\$ +7 Day Trial	It is very good but the Java content is not that much. Most of that courses are explaining the uses of Java in creating applications rather than teaching just Java.	There can be more content for Java as programming language rather than its applications and beside that there can be also more added code challenges and quizzes for each section.
Tech Gig	Interactive content with achievements	Similar to Hackerrank - code challenge based	No theory just challenges even if the title says "Java Essentials"	Easy	Free	Good to practice programming	No theory for Java just challenges
Tutorialspoint	Normal website with links	No quiz or code challenge	Java theory will reach advanced levels but it is like the beginnersbook example	Novice-Advanced	Free	Good when you need a term or technique explained but not for practicing	It should have interactiveness to motivate the reader and it should also have

							code challenges or quizzes.
Udacity	Website with interactive content that has achievements and different trophies	Quizzes and code challenge integrated in the website	Theory in form of videos - it has quality	Novice-Advanced	Free/Paid	Easy to understand and learn new things that are happening	No Java from easy to advanced course, just an intro and then the java uses, similar to Teamtreehouse
Udemy	Normal website with little interactive design	Some courses have quizzes in them and code challenges that are like Coursera	Each course is different based on what you pick and its instructor	Novice	Free/Paid	Wide variety of courses	It does not provide a unique and great course, mostly a course advertisement website
Vogella	No interactive content on the website	No practice parts	A bunch of text with some code examples but nothing more	Novice-Advanced	Free	Covers most java terms and details	Just a website with a bunch of theory about java but no code challenges at all or even a quiz or so

Java Just in Time Book	-	Coursework that involves making programs for each chapter or subchapter of the book	Easy to Advanced theory, very good structure	Easy-Hard	£10	Covers the Java topics from HelloWorld to Generics and other advanced topics with good coursework practice	Sometimes involves code to be completed that is only available to UoM students. There is no E-learning in there, just the book and its normal format.
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Table 2: Websites review based on the Table 1 ratings (Commented)

Sorting the websites based on grades and categories

	Interactive Design	Practice Content	Theory Content
0	Code.tutsplus CodeMentor ComputerScienceOnline Freecodecamp Hackr Homeandlearn IBM Introcs.cs.princeton	Vogella Tutorialspoint Programiz Oracle NetBeans Mkyong Lynda Javaworld	Codechef Codeforces CodeMentor CodingBat Hackr Introcs.cs.princeton Learnxinyminutes

	Javatpoint JavaWorld Mkyoung NetBeans Oracle Programiz Project Euler Reddit Vogella JavaJustInTime	Javatpoint Introc.s.princeton Homeandlearn Hackr ComputerScienceOnline CodeMentor Codechef Code.tutsplus BestProgrammingLanguageForMe Beginnersbook AndroidAuthority	Leetcode ProjectEuler Spoj
1	AndroidAuthority Beginnersbook BestProgrammingLanguageForMe Codeforces CodingBat	-	Coderbyte BestProgrammingLanguageForMe
2	TutorialsPoint Spoj Leetcode Learnxinyminutes Edureka Codechef	IBM	Codewars NetBeans Vogella
3	Edx LearnJavaOnline MITCourseware	Reddit	TechGig ComputerScienceOnline Code.tutsplus AndroidAuthority
4	Lynda	Edureka	-

	Coursera		
5	Udemy	Udemy	Hackerrank
6	-	Project Euler LearnJavaOnline Edx Coursera	Codecademy Hackerearth Mkyong MIT Courseware Programiz
7	Codeavengers Coderbyte Hackerearth	KhanAcademy Sololearn TeamTreehouse	TeamTreehouse Reddit KhanAcademy Homeandlearn Freecodecamp Edureka Codeavengers
8	Udacity TechGig Sololearn KhanAcademy Hackerrank Codeschool	Freecodecamp TechGig Udacity	Codeschool Coursera Edx IBM Javatpoint Javaworld Lynda Udacity Udemy

9	Codecademy Codewars	Codeavengers Codingbat HACKerearth Hackerrank Learnxinyminutes Leetcode Spoj JavaJustInTime	TutorialsPoint Sololearn Beginnersbook
10	Team Treehouse Codefights	Codecademy Codefights Codeforces Coderbyte Codeschool Codewars	Oracle JavaJustInTime

Table 3: Table 1 sorted based on grades and categories

	Interactive Design	Practice Content	Theory Content	Mean
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Codeschool	8	10	8	8.6
Codecademy	9	10	6	8.3
Sololearn	8	7	9	8
TeamTreehouse	10	7	7	8
Udacity	8	8	8	8
Codeavengers	7	9	7	7.6
Hackerearth	7	9	6	7.3
Hackerrank	8	9	5	7.3
KhanAcademy	8	7	7	7.3
Codewars	9	10	2	7
Codefights	10	10	0	6.6
Tech Gig	8	8	3	6.3
Java Just in Time Book	0	9	10	6.3
Coderbyte	7	10	1	6
Coursera	4	6	8	6
Udemy	5	5	8	6

Edx	3	6	8	5.6
Freecodecamp	0	8	7	5
MIT Courseware	3	6	6	5
Learn Java Online	3	6	5	4.6
Edureka	2	4	7	4.3
Lynda	4	0	8	4
Codeforces	1	10	0	3.6
Learnxinyminutes	2	9	0	3.6
Leetcode	2	9	0	3.6
Spoj	2	9	0	3.6
Tutorialspoint	2	0	9	3.6
Beginnersbook	1	0	9	3.3
CodingBat	1	9	0	3.3
IBM	0	2	8	3.3
Oracle	0	0	10	3.3
Reddit	0	3	7	3.3

Javatpoint	0	0	8	2.6
JavaWorld	0	0	8	2.6
Homeandlearn	0	0	7	2.3
Mkyong	0	0	6	2
Programiz	0	0	6	2
Project Euler	0	6	0	2
Androidauthority	1	0	3	1.3
Code.tutsplus	0	0	3	1
Computer Science Online	0	0	3	1
Best Programming Language For Me	1	0	1	0.6
Codechef	2	0	0	0.6
NetBeans	0	0	2	0.6
Vogella	0	0	2	0.6
CodeMentor	0	0	0	0
Hackr	0	0	0	0

Introcs.cs.princeton	0	0	0	0
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*Table 4: Websites sorted by the best score**

**Best score refers to the mean between interactive content, theory content and practice content grades*