

Amazon Partition by Day

(Organization Pattern)

Partitioning is a pattern where data can be partitioned based on the number of partitioners mentioned in the Custom partitioner. It can be used to separate the dataset into different files based on the number of partitions. I have separated the Amazon Review Dataset according to the day from 2015-08-01 to 2015-08-12. This gives different 13 folders as shown in figure.

OUTPUT:

```
./hadoop jar /home/sayali/Desktop/PartitionByDay.jar sayali.AmazonReviews6.AmazonPartitionByDay /AmazonReviews/AmazonReviews.tsv /AmazonPartition
```

Permission	Owner	Group	Size	Last Modified	Replication	Block Size	Name
-rw-r--r--	sayali	supergroup	0 B	Dec 12 11:20	1	128 MB	_SUCCESS
-rw-r--r--	sayali	supergroup	299.47 MB	Dec 12 11:20	1	128 MB	part-r-00000
-rw-r--r--	sayali	supergroup	0 B	Dec 12 11:19	1	128 MB	part-r-00001
-rw-r--r--	sayali	supergroup	11.1 MB	Dec 12 11:19	1	128 MB	part-r-00002
-rw-r--r--	sayali	supergroup	13.08 MB	Dec 12 11:19	1	128 MB	part-r-00003
-rw-r--r--	sayali	supergroup	13.43 MB	Dec 12 11:20	1	128 MB	part-r-00004
-rw-r--r--	sayali	supergroup	11.65 MB	Dec 12 11:20	1	128 MB	part-r-00005
-rw-r--r--	sayali	supergroup	13.09 MB	Dec 12 11:20	1	128 MB	part-r-00006
-rw-r--r--	sayali	supergroup	12.57 MB	Dec 12 11:20	1	128 MB	part-r-00007
-rw-r--r--	sayali	supergroup	13.03 MB	Dec 12 11:20	1	128 MB	part-r-00008
-rw-r--r--	sayali	supergroup	12.53 MB	Dec 12 11:20	1	128 MB	part-r-00009
-rw-r--r--	sayali	supergroup	12.57 MB	Dec 12 11:20	1	128 MB	part-r-00010
-rw-r--r--	sayali	supergroup	13.74 MB	Dec 12 11:20	1	128 MB	part-r-00011
-rw-r--r--	sayali	supergroup	15.3 MB	Dec 12 11:20	1	128 MB	part-r-00012

	Open	F1		PartitionDayZ [Unsaved]			Save	≡	-	x						
02	US	42494012	R1DUT0FJ32CUC	B00CK3JRZF2	B81242551	Newer Lady Monon Envelope Clutch Case Purse Shoulder Bag Handbag Tote Bag, Faux leather (Red) Beauty 4	0									
02	N	Y	Four Stars													
02	US	41913008	R17SFYNWQV1H9I2	B00HEHGHCXU6	\$4062B957	Kaskadee Baby Hyaluronic Acid Serum for Face with Vitamin C, E & MSM - Professional Hydrating Moisturizer for Skin - Non-greasy &										
02	Paren Free	= 1 cl oz Beauty 5			0 N Five Stars Very good!	2015-08-02										
02	US	132n4r05	R30THR9KLVCGBY	B00SJC3CYE	Gelish Basic Kit Beauty 1	1	1	N	N	I don't know what I'm doing wrong. I did my nails Sunday and two days later the polish started peeling! I capped the free edge and everything!! So frustrating because the color and shine was beautiful but what good is it if you can't enjoy at least one more day of chip free shine. I really wanted to love this b/c bought a bunch of the polishes colors but within a couple days the free edge started to peel up on my right hand every single finger! I thought this would save me hundreds of dollars but it's not worth it. Didn't work for me waste of hard earned money down the drain.	2015-08-02					
02	US	713709 RCPKTEUBGXHW5	B00MKSLSAM	99834775	Bo Ionic SilverClassic Ionic Pad, 5.30 ez Beauty 4	0	0	N	0	I just love my hair I now have a princess' hair with the smoothness all thanks to this bio ionic brush. 2015-08-02						
02	US	713709 RCPKTEUBGXHW5	B00MKSLSAM	99834775	Lip Lip Lip Lip Lip Lip Lip Lip Lip Lip La Lune Naturalis USDA Certified Organic Lip Balm, Natural Beeswax Lip Balm - Vanilla Bean, Raspberry,											
02	Asian Pearl, Peppermint - MADE IN THE USA - Best Lip Balm for Kids & Babies				Beauty 4	0	0	N	Y	Healthier choice These seem like a healthier choice over 7-11 or gas station lip balm. Smell and taste good, if not a bit gritty. Unfortunately, beauty does not last as long as gas station lip balm I am used to.->br />=>b>/g>Going to pro reorder these as time u lose them. 2015-08-02						
02	US	2807500	R1GXA2DM7YQP	B00BMHYHHM	S62B28094 Tweezerman Stainless Steel Facial Hair Scissors Beauty 5	0	0	N	Y	Five Stars Get the job done. Rounded tips. 2015-08-02						
02	US	4581899	R3642ADZ3STLX3	B00PFRJTZA	Z57952668 Wahl Cordless Lithium-Ion Trimmer With Ultimate Power For The Whole Body. I'm a firm believer in Wahl products, used to have a Wahl cordless trimmer many years ago which took batteries and unfortunately that eventually wore out. Since then, I've gotten Z57952668 from other trimmers that have virtually fallen apart. I broke down and bought this one, best one yet!	2015-08-02										
02	US	366462 REVMFOFCJBUG	B00BLFP9T2	E78453693 Professional Red Wood Kolinsky Acrylic Nail Brush Round Size 8	10	12	14	16	18	Beauty 5	0	0	N	Y	Flve	
02	US	4648799	R2TLA1PHNFWZQM	B00BNBFHNS	51537378 MASTERY by Mastey FREHMAR DAILY DETANGLER CONDITIONER FOR NORMAL TO DRY HAIR OIL FREE & DY-FREE 32 OZ for UNISEX											
02	US	4520840	R3SEVEYMFXPK1	B00SGSV6ZI	653406053 EcoTools Powder Brush Beauty 5	0	0	N	Y	N	My favorite brush My new foundation brush!					
02	love this brush. It uses the elf Flat Foundation brush and it was ok but this brush is amazing. It doesn't waste my expensive makeup, it's all natural, and it applies my foundation better than any other way i found. It really holds well and gets rid of all those nooks... And the price is amazing.															
02	US	47531312 R2RTBPZHMOIQW	B0016EOSKO	401531758 It Works Defining Gel Full Size 6 ounces Beauty 5	0	1	N	N	I love this product I love this product!!!! It is amazing which makes me become a distributor? You can get these a lot cheaper if you become a loyal customer which is just buying one discounted item a month for 3 short months at and after those 3 months you get free shipping so its life!!! Just go to Brooklyn.mytwinkl.com :)	2015-08-02						
02	US	1403484 R1BBETUYDNQR6	B005IAJMSO	T25747450 Davines Love Curl Enhancing Shampoo and Conditioner Set \$4.95 oz Beauty 1	1	N	Y	Counterfeit product!!!! This product is counterfeit. The sizes were smaller than the real Davines curly shampoo and conditioner and the product was not the same. This is absolutely not legit and I've never written a review on anything before. 2015-08-02								
02	US	9053773 RAKAFMRISXCX	B00BSRFQGS	263094146 Mandara Spa Amber Heaven Honey Bath Beauty 5	0	0	N	Y	relaxing love the scent.. 2015-08-02							
02	US	13444194 R2B5SOZOGEHBWM	B00IKTLKH8	E83979551 NYX Jumbo Eye Pencil Shadow Liner .004 MLik Beauty 4	0	0	N	N	works well. Looks nice. I have very bad skin, everything makes me break out. This however doesn't, and seems to work well. Don't have to apply it a lot. so its perfect. No smell, lasts long.	2015-08-02						
02	US	12463153 R1G8SZMBYS	B001K7MZVS	24 Pack of Products Beauty 5	24											
25	N	Y	Soothing oil	I've tried two different brands of Emu oil from Amazon and so far this one is the winner. I have very sensitive skin that gets irritated and itchy at the drop of a hat and this has proved just as effective as prescription creams in relieving the itch. The other one I tried didn't.->br />when all it said and done this still has some negatives. It is grease so therefore it is greasy. It also smells a lot like chicken fat. The smell is very light and can be easily coverd cone with a drop or two of some other pleasantly scented oil. The relief it brings outweighs the negatives. 2015-08-02												
02	US	13821013 R4BRZE35MUFGQ	B00P6BCNQ2	202274111 Cantu Shea Butter for Natural Hair Leave In Conditioning Repair Cream, 12 Onceunce Beauty 5	0	0	N	N	yAwesome-sense This makes my curls pop. It takes my hair super soft I llovesee this entire natural hair line.->br />-it'd hate to find good leave in. But this is my new buff	2015-08-02						
02	US	18214920 RF12SLAZ9H	R2PM2PEVESMDQL	B00BQUJJOK	25183831 Rainbow Quality - French Green Clay Facial Mask Beauty 5	1	1	N	Y	Five Stars one vry nice wdg and the extra quality comb too. Vry nice wgd and the extra quality comb too. Pretty color and little funky smell but figure that will fade. 2015-08-02						
02	US	41951927 R2ZMPZESVDSEL	B00BOUJJOK	52183831 Rainbow Quality - French Green Clay Facial Mask Beauty 5	1	1	N	Y	Five Stars one							

	Open	F1		Partition Day10 -Downloads-			Save	E	-	O	
10	US	46098990	R3PVOVQWCLRN B00B73KJQA	87053820	World Price Pocket Nail Cuticle Nipper Pack Contains Nail Trimmer, Pack of 3 Beauty 5 0 0 0 N Y						
10	US	Five Stars	Great value!	2015-08-10							
10	US	10410017	R24FNDMDXGZU B000053L6W	467857180	Virgin Island Bay Rum Cologne by Clubman for Men Colognes Beauty 5 0 0 N Y Classic						
10	US	Great bay rum scent and classic smell upon application.	Will tighten up your pores while healing razor burn. Scent isn't too strong but does linger for a bit after application.	2015-08-10							
10	US	4078346	R19H2MHGFJIHR B00BRALQ2S	217905964	Ted Lapidus Lapidus Pour Homme Black Extreme Eau de Toilette Spray for Men, 3.4 Ounce Beauty 5 0 0 N Y						
10	US	Five Stars	Order	2015-08-10							
10	US	36754094	R1PS0TISEGARX B000040YXN	294530529	Too Faced Better Than Sex Mascara Black 0.27 oz Beauty 5 0 0 N Y Gentle, Glamorous, Stunning						
10	US	Lashes! I LOVE THIS MASCARA.	I'm really picky about when it comes to make up & mascara; however, this one is perfect! I recently bought it after returning #834;they're Real#34; Mascara for being too harsh. It gives me the appearance of long lashes without having to deal with glue and lashes! I bought this product from ulta for \$23.00 and got a travel size with it. The price on here is a bit steep. I would recommend this to all and everyone I know!	2015-08-10							
10	US	50810519	R26JUGOARVIAQ B000011541	118715151	Oral-B Professional Deep Sweep + Smartguide TriAction 5000 Rechargeable Electric Toothbrush 1 Count Beauty 5 0 0 N Y						
10	N	n	the best product, recommended by my dentist... had no dental problems since using this... this is my second time I bot								
10	this product...										
10	US	10661269	R3ZWQXQZYHWY B000P22TZY	687704784	Nautica Voyage Toilette Spray for Men Beauty 4 0 0 N Y but this has a nice smell that doesn't make me sick and isn't overwhelming						
10	US	9884969	R2JIMIL3ADMGK B00FOAUKFK	288447636	Nyx Matte Lipstick ML510 - Perfect Red (Bright Blue-Toned Red) Long Lasting Lipsticks Net Wt. 0.16 oz Beauty 3 0 0 N Y						
10	N	Y	when applied on to the hand its perfect red but when applied on the lips it looks ... It has more of an orange hue to it. When applied on to the hand its perfect red but when applied on the lips it looks orange, a little bit disappointed with the colour.	2015-08-10							
10	US	18159916	R2003SFVCJQ B000DQFCAC	319779555	Joy & Karma Topical Vitamin C Anti Aging Serum for Face with Hyaluronic Acid, 1 fl oz Beauty 5 0 0 0 0						
10	N	N	Five Stars	2015-08-10							
10	US	7761326	RPUSAZSXOKF4 B00WCYZM0I	195991339	set of two travel size genifique FACE & EYE Concentrate Beauty 5 0 0 N Y Five Stars						
10	great service and product.			2015-08-10							
10	US	259524	R100SLIL2ZZHQ B009HULFWL	533609245	Pack of 2 Black Fiber Lippard Long Curling Eye Lashes Mascara Eyelash Mascara Set Beauty 1 0 0 N Y						
10	Y	Seriously so horrible. I should have paid attention to the other reviews stating how much it sucks. The fibers just get all over the place. I used it once and had to flush my eyes out with water because they were plastered with little particles of this crap.	2015-08-10								
10	US	7124628	RPMHLSLYCKEN B000R2JAQ0	195095281	Saneek Display Neck Strips, 60 strips pack of 12. Beauty 5 0 0 N Y saved me money Great item.						
10	It didn't take long to come and the price was great			2015-08-10							
10	US	5526408	R39EHLH4SLBK B00MP4LBDE	712232497	Enjol Mitri-Pedi Refill Rollers (Super Coarse) - Pack of 4 Beauty 5 0 0 N Y Five Stars						
10	Hair don't need yet but delivered as promised			2015-08-10							
10	US	30179551	R39UCNEGVVVY B00BYEYU0I	898797520	Image Prevention - Daily Matte Moisturizer Oil Free SPF 32,3.2oz Beauty 5 0 0 N Y Flve						
10	Stars Excellent service			2015-08-10							
10	US	51632467	R2F8RD0F1SGV B00ARF4046	537658407	Phillips Norelco BeardTrimmer 3500, cordless with adjustable length settings (Model # QT4042-42) Beauty 2 1 0 0						
10	N	Y Very awkward, and I find that it makes it not trtn as well. It is also more difficult to use on awkward spots, like the back of my neck. For anyone replacing an older Norelco, look very closely at the photos, and notice the bend in it. It just feels backwards to me.	2015-08-10								
10	US	15568261	R2H00CZ1Z1RQ B000C928K4	151550024	Aria Starr 2.5% Retinol Serum - 2 FL OZ - with Hyaluronic Acid, Vitamin E, Aloe, Jojoba Oil, Green Tea - Best Natural Skin Care Product For Anti Aging Anti Wrinkle, Acne Face, Neck & Eye Treatment Beauty 5 0 0 N Y This is A Fabulous Product Wow...I am really impressed with this product. I use it only at night after washing my face and i have been using it consistently for 2 or more weeks now. I can see a difference in how tight my skin looks! I will keep purchasing this product for sure. It doesn't cost a lot...just small amounts. So happy to have finally found something that actually works and it came from you!						
10	US	15568261	R2H00CZ1Z1RQ B000C928K4	151550024	Aria Starr 2.5% Retinol Serum - 2 FL OZ - with Hyaluronic Acid, Vitamin E, Aloe, Jojoba Oil, Green Tea - Best Natural Skin Care Product For Anti Aging Anti Wrinkle, Acne Face, Neck & Eye Treatment Beauty 5 0 0 N Y This is A Fabulous Product Wow...I am really impressed with this product. I use it only at night after washing my face and i have been using it consistently for 2 or more weeks now. I can see a difference in how tight my skin looks! I will keep purchasing this product for sure. It doesn't cost a lot...just small amounts. So happy to have finally found something that actually works and it came from you!						
10	N	the gel doesn't get all over the place and I think it's pretty ingenious. Five stars	The Tray system keeps everything in your mouth, the gel doesn't get all over the place and I think it's pretty ingenious. Five stars.	2015-08-10							
10	US	519826	R7E3GQWVKSCU B0004L3EXH	470101664	Nyx Soft Matte Lip Cream Beauty 2 0 0 N N I was very disappointed with this product I was very disappointed with this product, even though it was really excited to get it. I got it at a drugstore but at the time I applied it, it seemed like it had been used, like the container was almost empty and it was difficult for me to get some product from the walls of the container. I will try to buy a new one to improve my experience with it.						
10	HN	HC	36147132	D178680730VS	AA60EDF63	Calm Cosmetics Calm 100 Calm Moisture Mist Damaged Undone Experience as Use Available Online					

Map Reduce Code

Mapper:

```
public class DayPartitionMapper extends Mapper<LongWritable, Text, Text, Text> {
    private Text inputRec = new Text();
    private Text day = new Text();
    protected void map(LongWritable key, Text value, Mapper.Context context) throws IOException,
    InterruptedException {
        if (key.get() == 0) {
            return;
        }
        String[] line = value.toString().split("\\t");
        String[] dayPart = line[14].split("-");
        String dayVal = dayPart[2].trim();
        day.set(dayVal);
        inputRec.set(value);
        context.write(day, inputRec);
    }
}
```

Reducer:

```
public class DayPartitionReducer extends Reducer<Text, Text, Text, NullWritable> {
    protected void reduce(Text key, Iterable<Text> values, Reducer.Context context)
    throws IOException, InterruptedException{
        for(Text t: values){
            context.write(t, NullWritable.get());
        }
    }
}
```

Partitioner:

```
public class DayPartitionPartitioner extends Partitioner<Text, Text> {
    Text yval = new Text();
    @Override
    public int getPartition(Text key, Text value, int numPartitions) {
        int n = 1;
        if (numPartitions == 0) {
            return 0;
        } else if (key.equals("01")) {
            return n % numPartitions;
        } else if (key.equals(new Text("02"))) {
            return 2 % numPartitions;
        } else if (key.equals(new Text("03"))) {
            return 3 % numPartitions;
        }
    }
}
```

```

    } else if (key.equals(new Text("04"))) {
        return 4 % numPartitions;
    } else if (key.equals(new Text("05"))) {
        return 5 % numPartitions;
    } else if (key.equals(new Text("06"))) {
        return 6 % numPartitions;
    } else if (key.equals(new Text("07"))) {
        return 7 % numPartitions;
    } else if (key.equals(new Text("08"))) {
        return 8 % numPartitions;
    } else if (key.equals(new Text("09"))) {
        return 9 % numPartitions;
    } else if (key.equals(new Text("10"))) {
        return 10 % numPartitions;
    } else if (key.equals(new Text("11"))) {
        return 11 % numPartitions;
    } else if (key.equals(new Text("12"))) {
        return 12 % numPartitions;
    }
    else {
        return 13 % numPartitions;
    }
}
}

```

Driver:

```

public class AmazonPartitionByDay {
    public static void main(String[] args) throws IOException, InterruptedException,
        ClassNotFoundException {
        Configuration conf = new Configuration();
        Job job = Job.getInstance(conf, "Partitioning");
        job.setJarByClass(AmazonPartitionByDay.class);
        job.setMapperClass(DayPartitionMapper.class);
        job.setMapOutputKeyClass(Text.class);
        job.setMapOutputValueClass(Text.class);
        // Custom Partitioner::
        job.setPartitionerClass(DayPartitionPartitioner.class);
        job.setReducerClass(DayPartitionReducer.class);
        job.setOutputKeyClass(Text.class);
        job.setOutputValueClass(NullWritable.class);
        job.setNumReduceTasks(13);
        FileInputFormat.addInputPath(job, new Path(args[0]));
        FileOutputFormat.setOutputPath(job, new Path(args[1]));
        System.exit(job.waitForCompletion(true) ? 0 : 1);
    }
}

```