

The Monetary Value of a Bachelor Degree Compared to the Monetary Value of an Associate Degree (2011-2012 to 2019- 2020)

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As the price of a college education rises each year, it becomes increasingly difficult to obtain a college degree. This study analyzes strictly the monetary cost of college and the money made from different types of degrees to determine whether people make additional money from a college education. There is more to a college education than money, however, if one cannot afford it, then the option of college disappears. Every year people ask themselves whether or not attending college is a logical option in the course of their life, and this study answers the monetary aspect of that question.

We believe that this experiment should have been conducted with more granular data, such as different majors, student loans, types of colleges, etc. We do believe that the data sources used in this research are provided by reliable sources.

We aim to answer the question of whether or not college is the best choice for people financially. Many prospective college students are warned of the costly consequence of attending college and have to make an educated decision that will affect the rest of their life. The problem with this is that many of these students are under-educated when it comes to the monetary value of college. We are hoping to display the differences in the monetary value between an average Associate degree and a Bachelor degree.

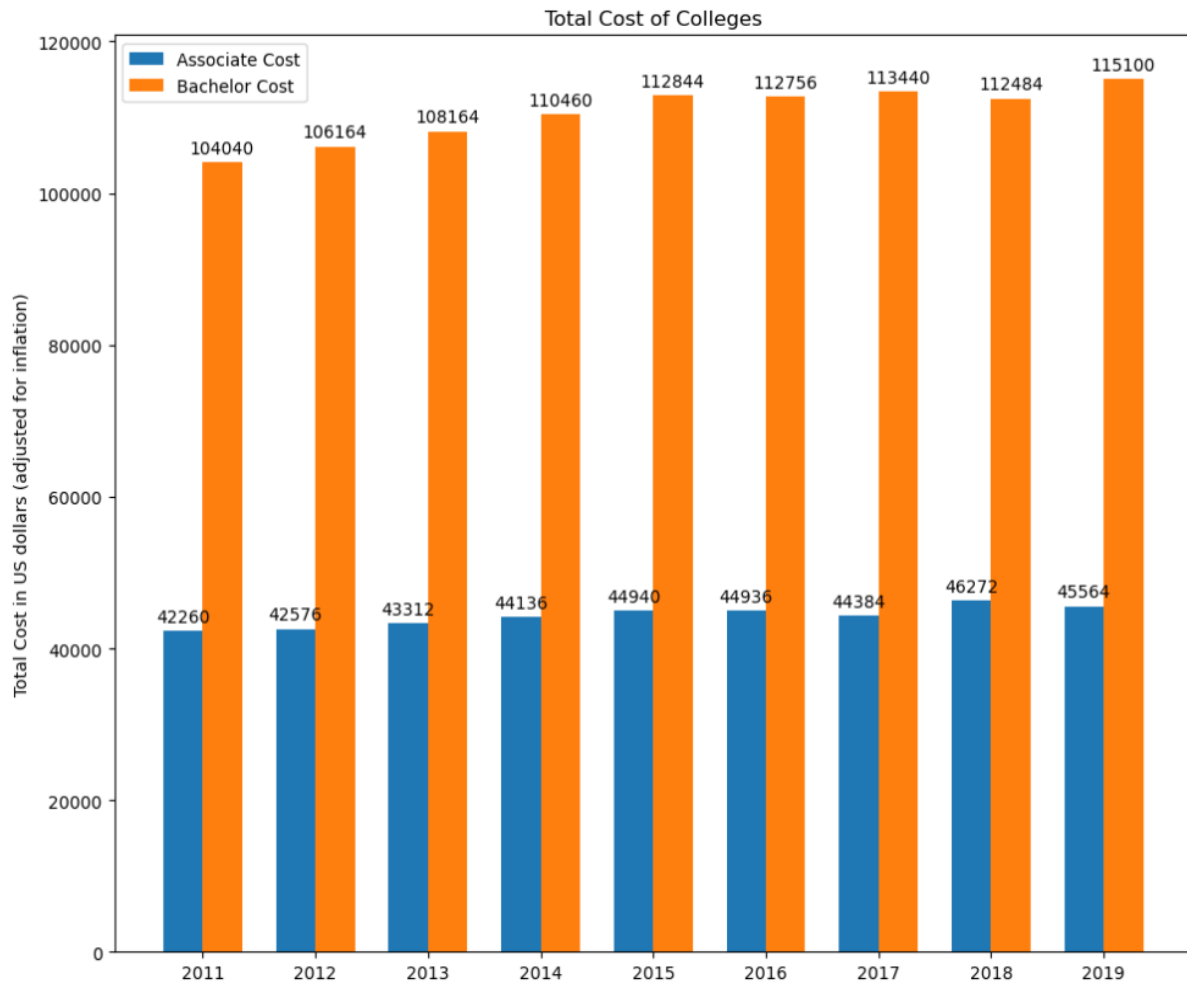
As a future college student myself I have spent a fair amount of time since middle school analyzing the pros and cons of obtaining a higher education. And through all those years of general research, all I had was basic information. I hope that this information will allow others to make a more informed decision about their future.

Data sources about wages, earnings, and tuition costs are from the Bureau of Labor Statistics (BLS) and the National Center for Education Statistics (NCES). The BLS is a federal agency whose sole purpose is to collect data on the US economy. Meanwhile, NCES is a part of Education Science which is the research branch of the United States Department of Education. Both sources are reliable resources that focus on the United States education and economy.

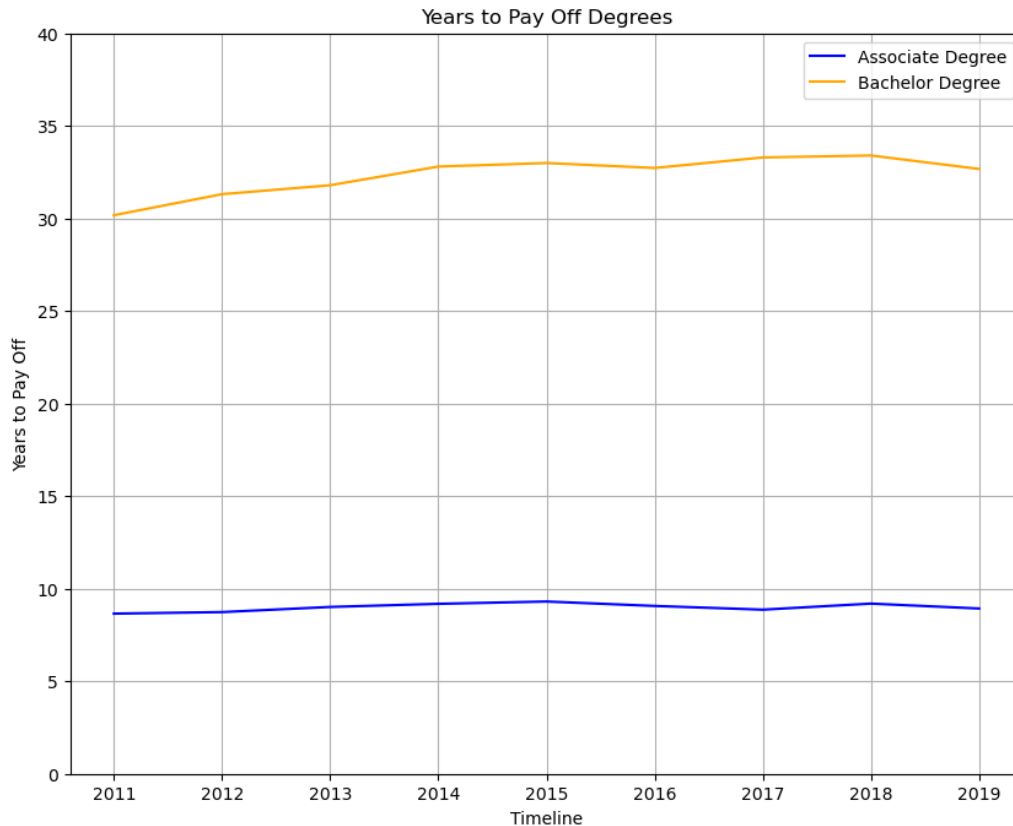
For this research project we analyzed four data sets. The first data set, from the National Education Center for Statistics, and calculates the average cost of both a 4-year and 2-year college education. In addition, it included the cost with and without inflation calculations and with records spanning from 1964 to 2020. However, the only years used for this specific research were 2011 to 2020. The Bureau of Labor Statistics provided two data sets on the average weekly salary made by people with a Bachelor's degree and Associate's degree, between the academic years of 2011-2012 to 2019-2020 for both data sets.

The goal of this research project is to investigate if a Bachelor degree or an Associate degree can be paid off faster on average.

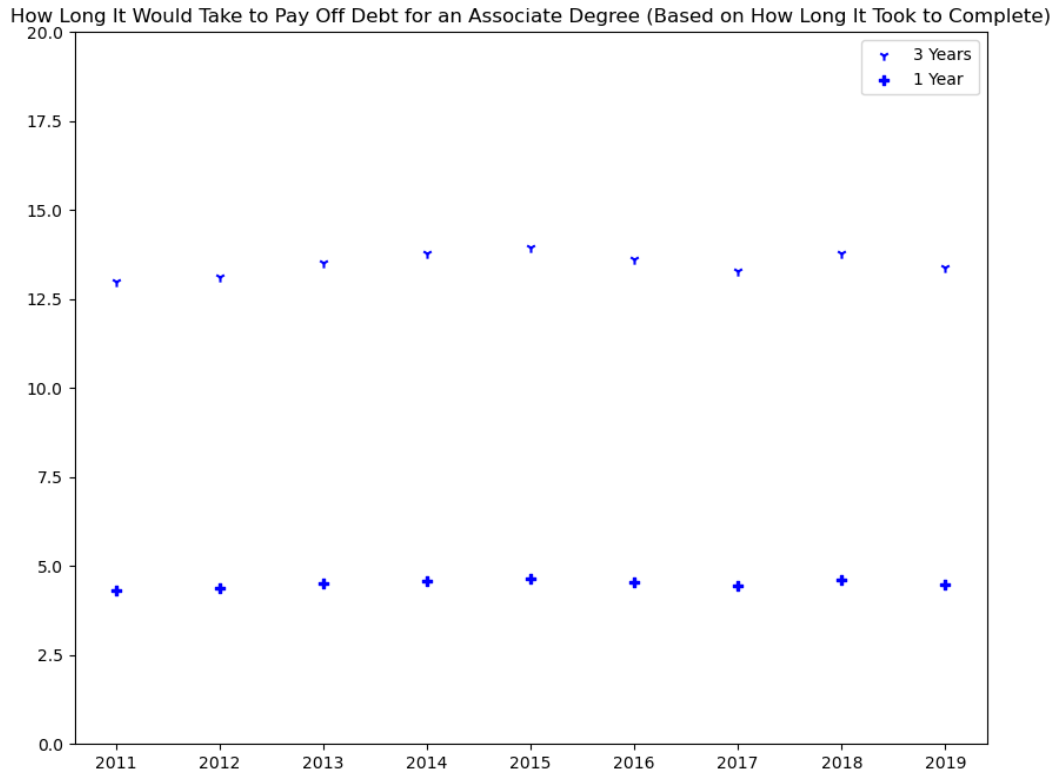
There were no predictor variables in this specific project, however, we used data on what percentage of someone's salary they should spend on paying off student debt to calculate how many years it takes to pay off the debt of a college education.



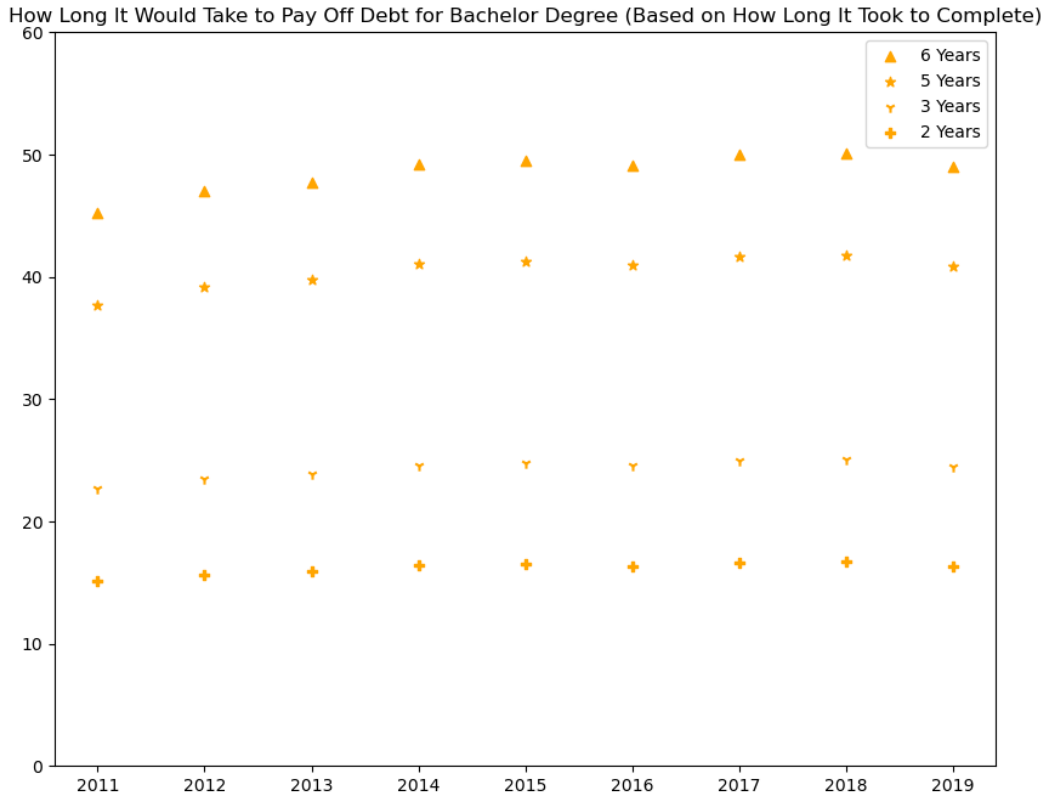
The graph here outlines the total cost of attending a four year university as well as the full cost of attending a two year university. The orange in this graph clearly shows the staggering difference between the average cost of these two types of degree. However, it is important to take into consideration that on average it takes twice as long to complete a Bachelor degree compared to an Associate degree. Therefore, a Bachelor degree will most likely cost twice as much as an Associate degree.



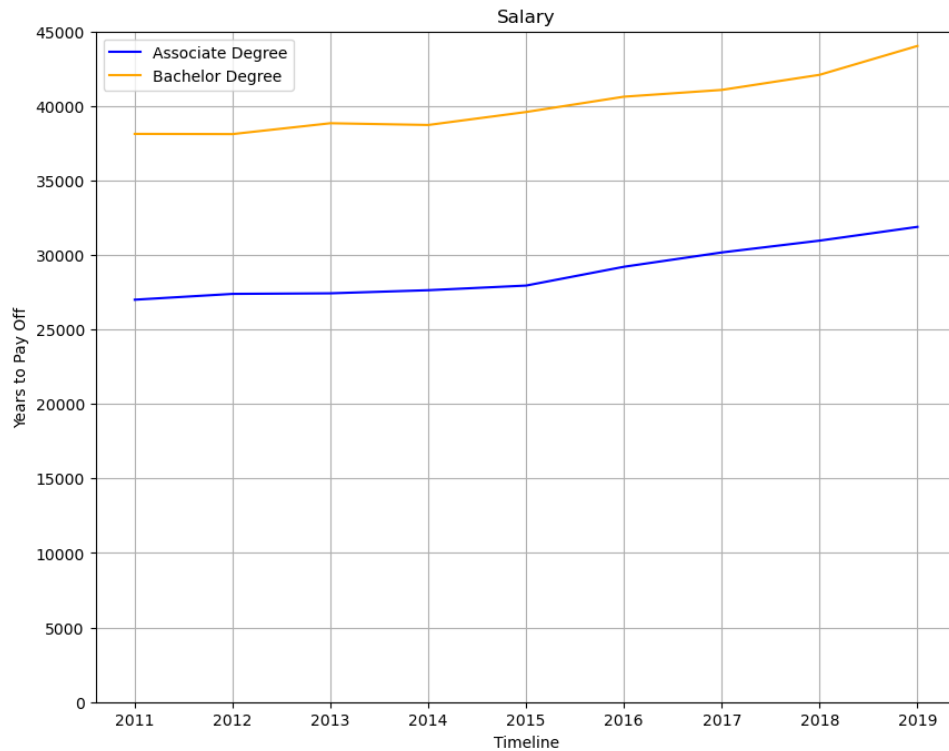
The orange line in this graph represents the average time to pay off a Bachelor degree, while the blue line shows how long it takes to pay off an Associate degree. These numbers were calculated using 8% of either salary and putting that amount towards its respective debt. The average time it takes to pay off an Associate degree is nine years, and when compared to the average time of thirty-two years, an Associate degree appears to be the route where someone pays off the lesser amount of money, faster. However, not everyone completes these degrees in four or two years.



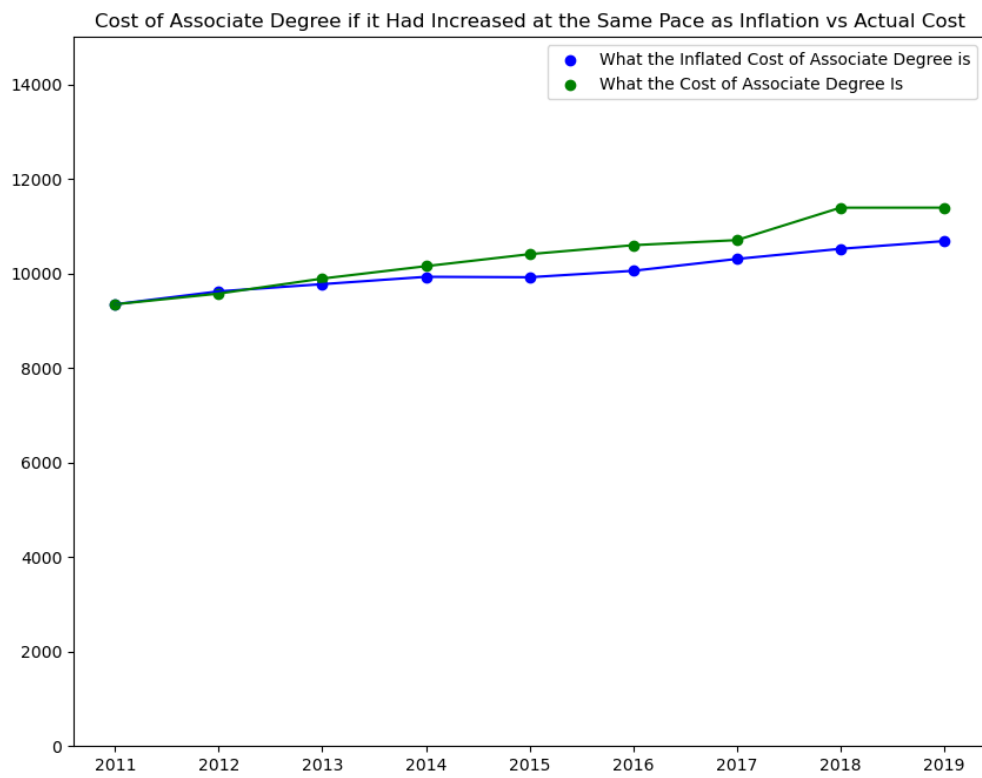
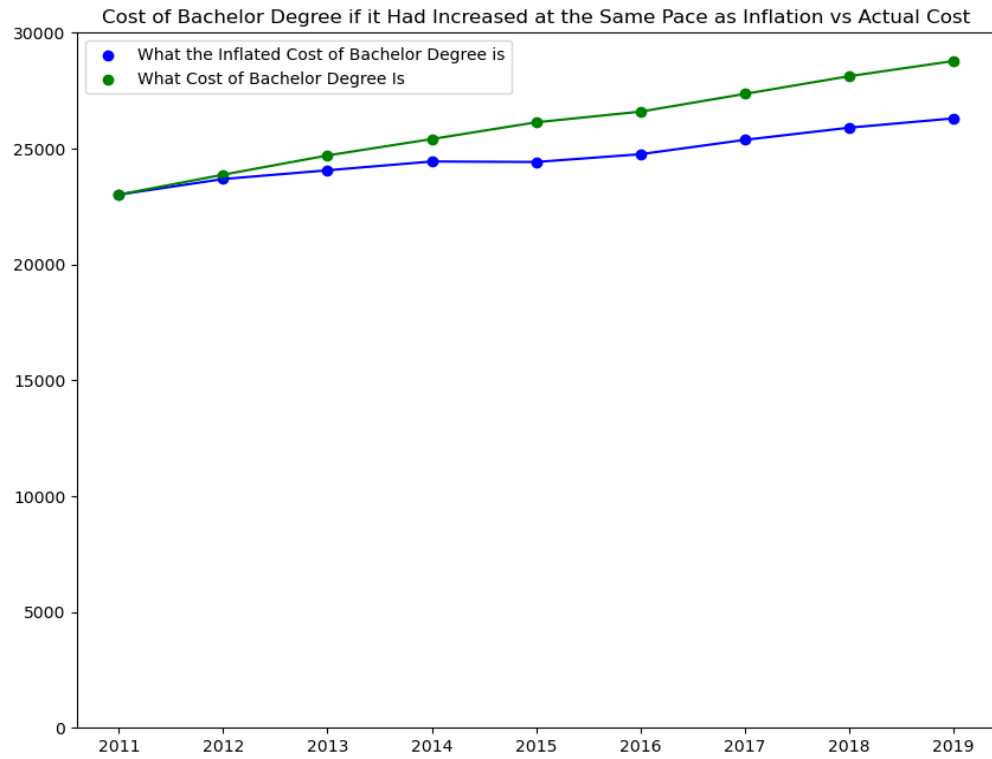
This scatterplot displays the average time it takes to pay off an Associate degree if someone were to complete it in one or three years. This graph takes 8% of an Associate's salary and puts it towards clearing any debt from obtaining a secondary education.



Meanwhile, this graph shows what the average time is for paying off a Bachelor degree if they attended a four year university for two, three, five, and six years. For example, the average time it takes to pay off a four year education completed within two years is approximately 16 years, while someone who spent six years in college might take about 49 years. This graph also takes 8% of a Bachelor's salary and puts it towards paying off any debt from attending college. Based on how much someone makes or how much of their salary they spend on paying off their debt these numbers could grow higher or they could get lower.



While an Associate degree can be paid back faster than a Bachelor degree, a Bachelor degree, on average, gives someone a higher salary. Even though it takes longer to pay off, people earn more money and can make more after paying off that debt. This becomes important when thinking about your life after college; after paying off the debt that comes with it. Things like savings, emergency funds, and retirement are important and many consider them a lifelong goal. Many experts consider preparing to use 80% of your pre-retirement income as a simple way of preparing for retirement. Someone who wants to put more towards their retirement might want to obtain a Bachelor degree as opposed to an Associate degree.



These graphs display what the cost of college would be if the price of college followed the inflation rate in blue. The green points represent what the cost of obtaining a degree actually is. The graph shows that the cost of college increases faster than the inflation rate.

After analyzing the results it is clear that an Associate degree can be paid off much faster, even though someone with an Associate degree doesn't have a higher salary than someone with a Bachelor degree. The results also show a high inflation rate that tends to rise each year. Due to the correlation between inflation rates and the cost of college, as inflation increases so does the cost of a secondary education. However, the cost of a secondary education rises faster than the inflation rate, on average the college inflation rate is 8%. While the inflation rate does take part in the rising cost of college, the cost of college rises simply because the price of attending goes up, regardless of the average inflation rate.

While this data does analyze the average cost and average tuition, not everyone falls into this average. Some students take on student loans, start paying off tuition while in school, or file the FAFSA for federal aid; some colleges might cost more or less than the average. There are also many different majors and careers that people are working towards that might cost more or allow someone to obtain a higher salary. Someone with an ethical hacking major might make an above average salary while someone who received a degree for library science might make a little below the average salary.

We believe that looking into the aforementioned specifics would give students a much clearer picture of cost and would sufficiently accomplish the goal of educating prospective students on the cost of college, and how said costs can change based upon many other factors. Many students and adults are faced with the difficult decision of whether or not they will take the risk that college offers. We hope that this analysis will provide prospective students with the necessary information to make a fully informed decision, and help them on their journey to obtain a secondary education.

Acknowledgements

Renaissance is a company that prioritizes student's right to education and while they primarily focus on grades k through 12, their goal is to accelerate learning for all students, regardless of age, ethnic or social background, and ability level. Their support in this research has been invaluable, including Jon Stelman and his team for answering any questions and showing me the way when I could not see it myself. Thank you to everyone who interacted with me and gave me advice for this research project.

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