

Impression Formation

Experimental Investigation of the Effects of Impression Formation

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Introduction:

The aim of our investigation is to analyze the validity of Impression Formation Theory, and to observe if inclusion of certain adjective traits impacts the perception of a fictional character. We expected there to be a strong correlation between the chosen adjectives and the composite perception of the person because of the connotative weight of these words. Studying this link is important because an individual's perception of others dictates the relationships they create and maintain. This perception is threatened by the increase in technology, which is developing more superficial criteria for judging others, so a new need to analyze how an individual's judgement is altered is created. Our decision to study this specific issue was influenced by the growing need to understand the personal changes that occur with a heightened dependence on outside opinions.

Impression Formation, or Personal Perception, describes the process by which humans learn about and effectively judge others (Jhangiani & Tarry). It is used to depict how and why people use specific information to successfully judge each other. An important component of Impression Formation is the use of nonverbal cues, which can describe a person without direct interaction (Jhangiani & Tarry). These cues include body language, eye contact, tone, gestures, and interpersonal distance. While multiple psychologists have been credited with significant developments, Solomon Asch was one of the original pioneers of this Gestalt Psychology. He theorized that the impressions of someone were on a cumulative level, accounting for multiple variables combining to create a cohesive image.

Impression Theory is related to this investigation because we are studying the effects of certain adjectives on a composite positivity score of a fictional character. By changing one adjective, we only impact one component of a person's description but influence their overall depiction. The change isn't as drastic as if you changed multiple variables, but there is a distinct shift in attitudes towards the character. This shift is explained by the effective, yet delicate way humans have learned to judge others. They trust their instincts and previous experiences to identify the type of person will be, based only on a second-hand depiction of the personality. This connects to the Gestalt Psychology because the collective impression was changed without changing the entire personality.

Asch studied this effect in a series of experiments where he manipulated adjectives pertaining to the description of a person. The study we replicated was Asch's 'warm and cold' experiment, where he aimed to analyze the effect of changing an adjective on the subjects' perceptions of a fictional character. The subjects were separated into two groups, one which would hear a list of seven adjectives where 'warm' was the fourth word and one which would hear 'cold' instead. The remaining six words were identical, eliminating other variables that could influence results. The subjects heard the list twice and then ranked the depicted person in a

list of 18 pairs of adjective opposites. To calculate results, Asch found the percentage of scores that positively ranked the individual in each pair of adjectives. The results demonstrated that the inclusion of ‘warm’ developed a predominantly positive outlook on the character, while ‘cold’ developed a negative perception of the same figure. These results demonstrate that Impression Theory is a holistic judgement of a character and can be impacted by individual components.

In replicating this experiment, our null hypothesis is that changing the fourth word, in a list of seven provided to the subjects, from ‘warm’ to ‘cold’ will have no effect on the subjects’ rankings of the figure in a list of 18 pairs of adjective opposites, where we average six rankings from pre-selected pairs to calculate a positivity composite score. Our one-tailed research hypothesis is that changing the fourth word, in a list of seven provided to the subjects, from ‘warm’ to ‘cold’ will have a negative effect on the subjects’ rankings of the figure in a list of 18 pairs of adjective opposites, where we average six rankings from pre-selected pairs to calculate a positivity composite score.

Exploration:

To run this experiment, we had to use independent measures in order to maintain the integrity of the results. If the subjects had repeated both conditions, they would have been able to identify the aim of the study and the variable words, possibly introducing bias into their responses. To acquire our subjects, we used a convenience sample to ensure that we had enough subjects to run the experiment. Using a convenience sample was also the easiest option, allowing us to quickly gather subjects; we obtained 13 female and 9 male participants. The subjects we chose were all 14-18 years of age, fluently spoke English, and all lived the same geographic region. These characteristics minimize the possibilities of variances in results. Our experiment included the following steps:

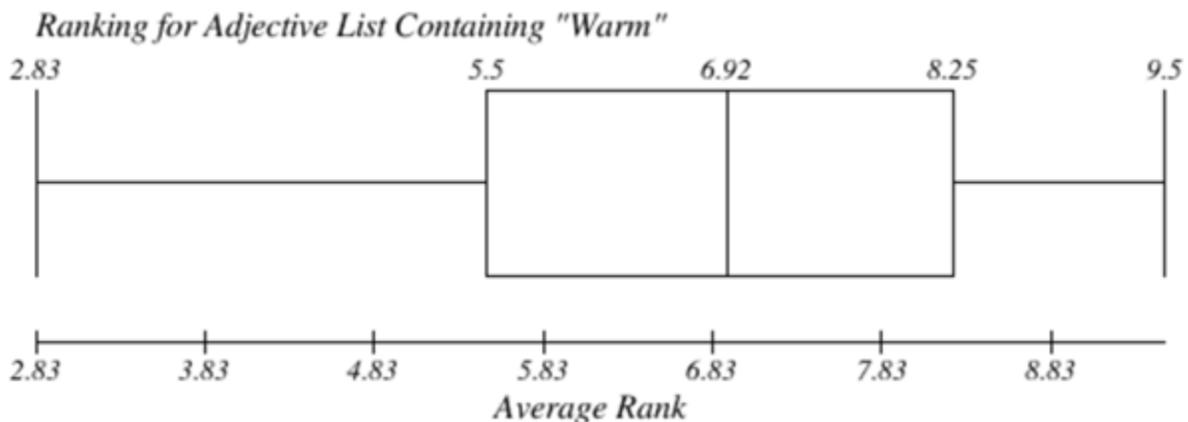
1. Set up manila folder barriers, with consent forms (Appendix 4) passed out, at multiple desks to create divided seating for the subjects.
2. Read over the consent forms and have subjects sign them.
3. Pass out the ranking sheets (Appendix 8) and definitions lists (Appendix 7) face down.
4. Display the stock photo (Appendix 9) on the screen and introduce the man as ‘John’.
5. Read the following narrative and the adjectives twice. Then, tell the subjects to fill out the rankings sheet on their desk.
 - a. We interviewed John’s friends and family who came up with the following list of adjectives: intelligent, skillful, industrious, warm/cold, determined, practical, cautious.
6. Allow the participants time to complete the rankings to the best of their abilities.

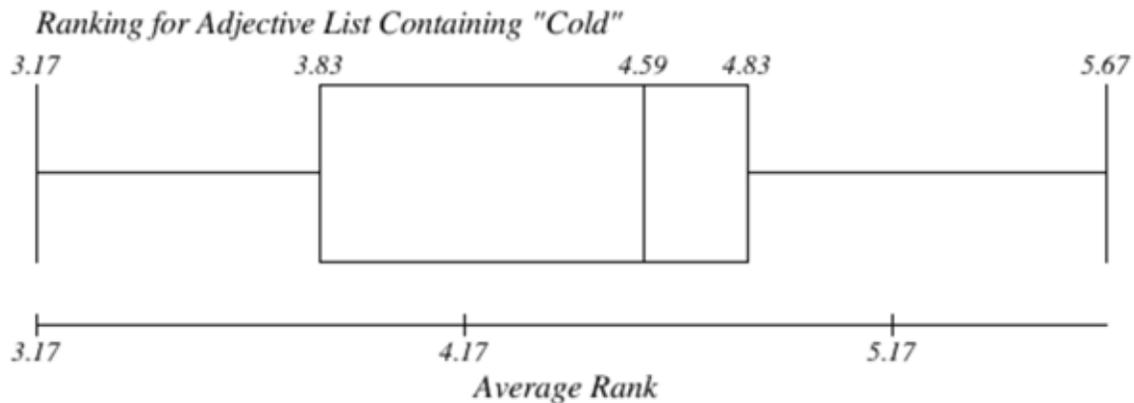
7. As the subjects finish, collect the rankings sheets and consent forms.
8. Read the debrief form (Appendix 5).

Since our experiment dealt with the definitions of certain words, we had to ensure the participants understood the meanings of the words. To guarantee the subjects did not have uncertainty while listening to the list of adjectives, we provided them with a definitions list. This was an important factor because if the subjects relied on personal interpretations or didn't know the word, the results would be invalid since they were based on inconsistent information. Another extraneous variable that we had to acknowledge is that the subjects could have differing interpretations of the description, altering results. To control for this, we provided a universal photo that the subjects were unfamiliar with, ensuring they pictured the same person with the given description. For ethics, we considered how the mild deception would possibly impact the subjects because some might not want to participate after being deceived. To ensure that the subjects felt comfortable with this experiment, we created a parental (Appendix 3) and subject content form, that were signed prior to participating. A specific ethical consideration we had was the possibility that some could feel distressed by being tasked with creating a comprehensive ranking based on incomplete information, which we addressed in the debrief.

Analysis:

The positivity composite score that was used for our results and calculations was established by taking the averages of six of the ranking pairs on the list subjects completed. We used five of the most significant and self-explanatory pairs that would allow for valid results. These scores were then used to calculate a median and interquartile range for both the 'warm' and 'cold' conditions. We used these statistics because they are resistant to outliers, while still showing the dispersion of data, and provide a comparison between both sets of data. The median was 4.58, with an IQR of 1, for the 'cold' condition and 6.92, with an IQR 2.75, for the 'warm' condition.





The inferential statistics for our experiment were calculated by the Mann Whitney-U test. This test was used because we yielded nominal data when we assigned numerical values to the human characteristics being ranked. The experiment has an independent measures design, so the data is of two different groups that have individual, unrelated data because the same participants were not used. From our calculations (Appendix 10) the U-Score was 17, and at a .05 significance level with a critical value of 34, our results were concluded to be significant. Based on this significance, we can reject our null hypothesis and conclude with 95% certainty that the change from ‘warm’ to ‘cold’ does have a negative impact on the composite positivity score.

Evaluation:

The results indicate that our replication of Impression Formation was successful because we achieved statistical significance. Our hypothesis that changing the word ‘warm’ to ‘cold’ would negatively impact the overall impressions was shown to be possible, since we had a high U-score. The significance level of .05 denotes that the critical value is 34, and our score was 17, meaning that there is a high significance to our results. While results clearly indicate significance to our results, Asch’s original study did not include composite scores for each ranking. Instead, he calculated the percentages of subjects that ranked the character with each adjective, which were then compared to determine significance. The significance was determined by the severity of the differences between the two conditions. Since both the original study and our replication reached levels of significance, we can support the idea that Impression Formation is a holistic process.

The impressions subjects had of ‘John’ were influenced by changing one word, confirming that the formation accounts for the ways each aspect of a person changes their overall demeanor. The results demonstrate that people can form and influence their impressions based on the key information they are given. Even without meeting ‘John’ the subjects were able to have their perceptions altered, supporting our hypothesis that the shift from ‘warm’ to ‘cold’ would lower their overall impression. Since we achieved the significance, we fulfilled the aim of our investigation, which was to specifically demonstrate the effects of a minor change on Impression Formation Theory. This differs from Asch’s study because he aimed to display the

effects of certain adjectives on the subjects' overall impressions. Both experiments ran similarly, in regard to the steps subjects had to complete and the results yielded. However, Asch noted that a limitation of his study was the necessity for subjects to choose one of the adjective pairs when ranking, even if they did not feel that the character met those extremes. For this reason, we modified our investigation so that our subjects had the ability to rank the subjects on a scale of 1 to 10, eliminating the pressure to make a definitive statement that they might not agree with. Ethical concerns, such as emotional distress and a debrief, were especially important because we made the subjects form a first impression based on deception and false information. This rushed decision, developed with minimal information could create a distressing situation for some. This ensured the necessity for a complete debrief with participant ability to withdraw.

Even though our investigation resembled the original experiment, there were inherent limitations within the design, sample, and procedure. One limitation with the design is that we had to use independent measures, and while it was necessary to ensure authenticity of results, personal biases could have been introduced. Each subject has an individual perception of the words and photograph shown, and by using two different groups we doubled the amount of individual biases present. One limitation of the sample is that it was a convenience sample, so there was no way to ensure that the subjects truly wanted to participate. If the subjects did not want to be in the experiment, they could have falsely answered the rankings sheet, purposely skewing results. Another limitation of our investigation is that the subjects had to write down their impressions of the figure. They couldn't verbally express their opinions, which is the natural response, instead having time to think about and revise their impressions. This can skew results to be more neutral and not as extreme as they initially could be.

Given these limitations, there are also strengths with the design, sample, and procedure. A strength of using an independent measures design is that we can state that the subjects could not figure out the aim of the experiment and tamper with the results. Each subject was exposed to the experimental environment one time. A strength of the sample is that the subjects all came from the same school, where there are shared understandings of concepts. There were minimal cultural or generational gaps, which could produce multiple interpretations of the same words. Another strength is in the procedure, where we supplemented the verbal information with a photograph. This support could enhance the impression formed, making it easier to rank the character.

A modification for the investigation, to analyze another aspect of Impression Formation, could be the addition of another photograph. The subjects would be divided into two additional groups that heard the respective 'warm' and 'cold' lists but saw a different photograph. This change would investigate the difference in impressions based on verbal or non-verbal cues; the importance of each could also be analyzed from this change.

The results of our Mann Whitney-U test show significance in our data and cause us to reject our null hypothesis, illustrating the negative effects of changing 'warm' to 'cold' on a

subject's overall impression; this coincides with Asch's results demonstrating the effects of Impression Formation.

References

Asch, S. Forming Impressions of Personality. , 258-265

Jhangiani, R., & Hammond, . (n.d.). *Principles of Social Psychology*. Retrieved from <https://opentextbc.ca/socialpsychology/chapter/initial-impression-formation/>

Appendices

Appendix 1- Raw Data

OUR RAW DATA

Group 1: warm condition
12 participants

6.67
9.50
7.67
2.83
9.50
5.83
4.17
6.67
7.17
8.83
5.17
7.67

Group 2: cold condition
10 participants

3.83
3.33
5.67
3.17
4.50
5.00
4.67
4.67
3.83
4.83

Appendix 2- Asch's Data

	EXPERIMENT I	
	"WARM" N=90	"COLD" N=76
1. generous	91	8
2. wise	65	25
3. happy	90	34
4. good-natured	94	17
5. humorous	77	13
6. sociable	91	38
7. popular	84	28
8. reliable	94	99
9. important	88	99
10. humane	86	31
11. good-looking	77	69
12. persistent	100	97
13. serious	100	99
14. restrained	77	89
15. altruistic	69	18
16. imaginative	51	19
17. strong	98	95
18. honest	98	94

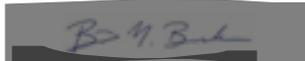
Appendix 3- Parental Consent Form

September 2, 2019

Dear Parents,

I am writing this letter to inform you directly about the nature of the Psych IA Experiment Day that will be taking place on Tuesday, October 1st, 2019. All Psychology students need to be there to participate as subjects (Psych I) or as experimenters & subjects (Psych II) from approximately 2:30-4:00pm. This is an IB Psychology requirement. I am asking for volunteers from NHS and Key Club to act as participants (for service hours) in the experiments as well. Ethical guidelines require that parents give consent for their minor children in order to participate in a Psychology IA. If you agree to let your child(ren) participate in Psych IA Day, please write their name(s) below and sign and date on the line. If you have any questions or would like to review the procedural or ethical guidelines, I would be happy to email them to you. Please rest assured that IB Psychology standards are even more stringent than standard ethical requirements and your student will not be in any physical or emotional distress. Thank you for your cooperation and support for this required, albeit inconvenient, IB activity.

Sincerely,


Brian N. Burak
brian.burak@uticak12.org

Please Print Name(s) of Minor Child(ren) Who Will Participate in the Psychology IA Day below:

Student Name(s): _____

Parent Signature: _____ Date: _____

Appendix 4- Consent Form

Consent Form

By signing this consent form, you agree to participate in our experiment. Your results will remain anonymous and at any point you have the right to withdraw your data from the experiment. You will also be debriefed at the end of the experiment.

Name: _____

Grade: _____

School Email: _____ @stu.uticak12.org

Signature: _____ Date: |_____

Appendix 5- Debrief

Thank you for participating in our study!

We were testing how the inclusion of certain adjectives in the list provided to you influenced your perception of the person. Specifically, we were testing how including the word “warm” or “cold” affected your impression of “John.” We used mild deception in this experiment as the person, who we named John, is fictional and we did not speak with his friends and family to gather these adjective characteristics.

You are welcome to withdraw your data from the experiment at any time

If you wish to get in contact with us, our emails are:

scopass@stu.uticak12.org

makaron@stu.uticak12.org

pateln4@stu.uticak12.org

Appendix 6- Script

1. Please sit down at one of the manila folder work areas set up around the room.
2. Read over and sign the consent form. Please let us know if you need a writing utensil.
3. We will then pass out a sheet of paper facedown, do not flip the sheet over.
4. Today we will be investigating personal perception.
5. You are about to be shown a photo of John and a list of characteristics describing him. We will read you a short narrative and a list of adjectives, provided by John's friends and family in an interview, that describe his personality.
6. We will provide you with the adjectives' definitions in case you are unsure of their meaning.
7. After listening to the list of seven adjectives twice, you will turn over the sheet of paper on your desk that has 18 pairs of opposing adjectives such as:

Stupid 1 2 3 4 5 6 7 8 9 10 Smart

8. You must circle one of the numbers on this scale in coordination with your perception of the John based on the description provided by the list of adjectives we read to you. The rankings work on a scale where:

1 is the most extreme low

10 is the most extreme high

5 is neutral

9. When you are finished, raise your hand and we will come around to collect both your ranking and consent forms.
10. Thank you for participating in this study, we will now read the debrief.

Appendix 7- Definitions Sheets

Intelligence- the ability to acquire and apply knowledge and skills

Skillful- the ability to do something well; expertise

Industrious- diligent and hardworking

Warm- having, showing, or expressive of enthusiasm, affection, or kindness

Determined- having made a firm decision and being resolved not to change it

Practical- (an idea, plan, or method) likely to succeed or be effective in real circumstances; feasible

Cautious- characterized by the desire to avoid potential problems

Intelligence- the ability to acquire and apply knowledge and skills

Skillful- the ability to do something well; expertise

Industrious- diligent and hardworking

Cold- lacking in passion, emotion, enthusiasm; dispassionate

Determined- having made a firm decision and being resolved not to change it

Practical- (an idea, plan, or method) likely to succeed or be effective in real circumstances; feasible

Cautious- characterized by the desire to avoid potential problems

Appendix 8- Rankings List

1. **Ungenerous** 1 2 3 4 5 6 7 8 9 10 **Generous**
2. **Shrewd** 1 2 3 4 5 6 7 8 9 10 **Wise**
3. **Unhappy** 1 2 3 4 5 6 7 8 9 10 **Happy**
4. **Irritable** 1 2 3 4 5 6 7 8 9 10 **Good-Natured**
5. **Humorless** 1 2 3 4 5 6 7 8 9 10 **Humorous**
6. **Unsociable** 1 2 3 4 5 6 7 8 9 10 **Sociable**
7. **Unpopular** 1 2 3 4 5 6 7 8 9 10 **Popular**
8. **Unreliable** 1 2 3 4 5 6 7 8 9 10 **Reliable**
9. **Insignificant** 1 2 3 4 5 6 7 8 9 10 **Important**
10. **Ruthless** 1 2 3 4 5 6 7 8 9 10 **Humane**
11. **Unattractive** 1 2 3 4 5 6 7 8 9 10 **Good-Looking**
12. **Unstable** 1 2 3 4 5 6 7 8 9 10 **Consistent**
13. **Frivolous** 1 2 3 4 5 6 7 8 9 10 **Serious**
14. **Talkative** 1 2 3 4 5 6 7 8 9 10 **Restrained**
15. **Self-Centered** 1 2 3 4 5 6 7 8 9 10 **Altruistic**
16. **Hard-Headed** 1 2 3 4 5 6 7 8 9 10 **Imaginative**
17. **Weak** 1 2 3 4 5 6 7 8 9 10 **Strong**
18. **Dishonest** 1 2 3 4 5 6 7 8 9 10 **Honest**

Appendix 9- “John” Photograph



Appendix 10- Mann-Whitney Calculations

Mann-Whitney U Calculations				
1. Rank all scores together, ignoring which condition they come from.				
Avg. score	Rank	Avg. score	Rank	
W 2.83	1	W 5.17	12	
C 3.17	2	C 5.67	13	
C 3.33	3	W 5.83	14	
C 3.83	4.5	W 6.67	15.5	
C 3.83	4.5	W 6.67	15.5	
W 4.17	6	W 7.17	17	
C 4.50	7	W 7.67	18.5	
C 4.67	8.5	W 7.67	18.5	
C 4.67	8.5	W 8.83	20	
C 4.83	10	W 9.50	21.5	
C 5.00	11	W 9.50	21.5	
W = warm condition C = cold condition				
2. $T_1 = \text{warm} = 181$ $T_2 = \text{cold} = 72$ $\therefore T_x = 181$				
3. $n_1 = \text{warm} = 12$ $n_2 = \text{cold} = 10$ $\therefore n_x = 12$				
4. Find U				
$U = n_1 \times n_2 + n_x \left(\frac{(n_x + 1)}{2} \right) - T_x$				
$U = 12 \times 10 + 12 \left(\frac{(12 + 1)}{2} \right) - 181 = \boxed{17}$				
5. Find critical value using Z-tailed U table. (5%)				
= 34				
critical value $\geq U$, then statistically significant				
34 \geq 17 \therefore statistically significant				

Appendix 11- Critical Values Table

CRITICAL VALUES OF THE MANN-WHITNEY U FOR $\alpha = .05$

Critical values are provided for a *one-tailed* test at $\alpha = .05$ (lightface type) and for a *two-tailed* test at $\alpha = .05$ (boldface type). To be significant for any given n_A and n_B , the obtained U must be *equal to or less than* the critical value in the table. Dashes (—) in the body of the table indicate that no decision is possible at the stated level of significance and values of n_A and n_B .

$n_B \backslash n_A$	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	0
2	—	—	—	—	0	0	0	1	1	1	1	2	2	2	3	3	3	4	4	4	4
3	—	—	0	0	1	2	2	3	3	4	5	5	6	7	7	8	9	9	10	11	11
4	—	—	0	1	2	3	4	5	6	7	8	9	10	11	12	14	15	16	17	18	18
5	—	—	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	17	18	19
6	—	0	1	2	3	5	6	8	9	11	12	13	15	16	18	19	20	22	23	25	25
7	—	—	0	1	2	3	5	6	8	10	11	13	14	16	17	19	21	22	24	25	27
8	—	0	2	3	5	7	8	10	12	14	16	17	19	21	23	25	26	28	30	32	32
9	—	—	1	2	3	5	6	8	10	11	13	14	16	17	19	21	22	24	25	27	27
10	—	0	2	4	6	8	11	13	15	17	19	21	24	26	28	30	33	35	37	39	39
11	—	—	1	3	5	6	8	10	12	14	16	18	20	22	24	26	29	31	34	36	38
12	—	0	2	4	7	10	13	15	18	20	23	26	28	31	34	37	39	42	45	48	51
13	—	—	1	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54
14	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	39	42	45	48	48
15	—	1	3	5	8	10	13	15	18	21	24	27	30	33	36	39	42	45	48	51	54
16	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
17	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
18	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
19	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
20	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
21	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
22	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
23	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
24	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
25	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
26	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
27	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
28	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
29	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
30	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
31	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
32	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
33	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
34	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
35	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
36	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
37	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
38	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
39	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
40	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
41	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
42	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
43	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
44	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
45	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
46	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
47	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
48	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
49	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
50	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
51	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
52	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
53	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
54	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
55	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
56	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
57	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
58	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
59	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
60	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
61	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
62	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
63	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
64	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
65	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
66	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
67	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
68	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
69	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
70	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
71	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
72	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
73	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
74	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
75	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
76	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46	50	54	57	61	65
77	—	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	40	44	47	51	55
78	—	—	1	3	6	9	13	16	19	23	27	31	34	38	42	46					