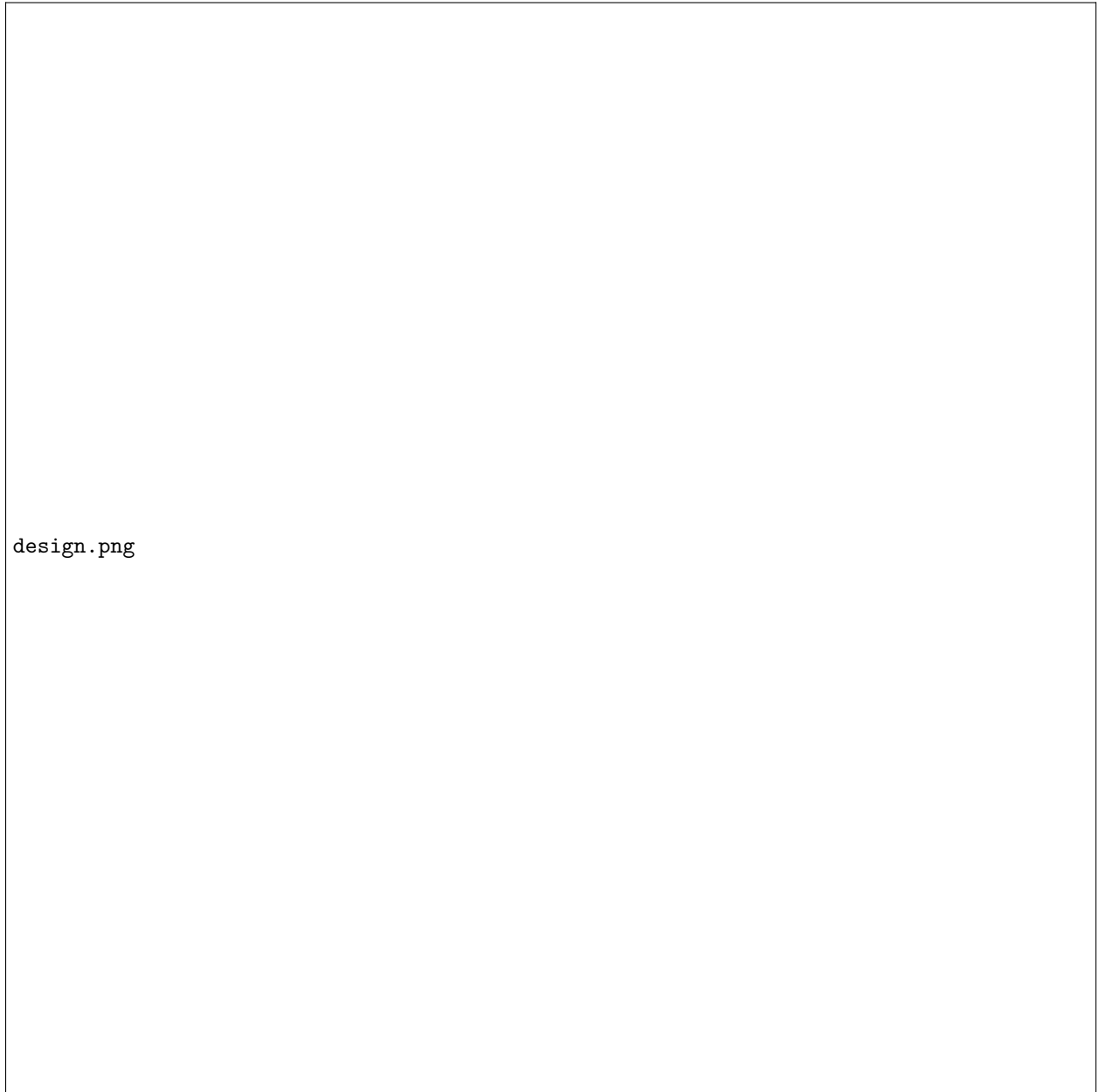# 1 Basic Design

design.png

Figure 1: Enter Caption

1.1 Persona and no Persona

For AI agents, we can consider several demographic variables or personality types and then execute the query. Gender might be the most significant one to consider. However, income, age, education, occupation, and race could also be added.

1.1.1 Lottery Reservation Price

Suppose in a lottery game, the possibility to win $100 is 10%, then how much would you pay at most to buy a lottery ticket?

1.1.2 Lottery Reservation Probability

Suppose you are offered $10 in cash. Instead, however, you may choose a lottery ticket. The lottery has a prize of $200, but the probability of winning has not yet been determined. We want you to think about different probabilities to win the prize of $200. How high should this probability be, at least, for you to take the lottery ticket rather than the $10 in cash in cash?

1.2 Prompting Importance

Zero shot or few shot or COT

1.3 Staircase Risk

1.3.1 List of Questions

The staircase procedure for eliciting risk preferences consists of a sequence of lottery choices. Everybody starts with the same first question. The choice for the lottery or the safe payment option then determines the next question in the sequence. This procedure is repeated four times. Subjects were instructed as follows:

Please imagine the following situation: You can choose between a sure payment and a lottery. The lottery gives you a 50 percent chance of receiving 300 Euro. With an equally high chance you receive nothing. Now imagine you had to choose between the lottery and a sure payment. We will present to you five different situations. The lottery is the same in all situations. The sure payment is different in every situation.
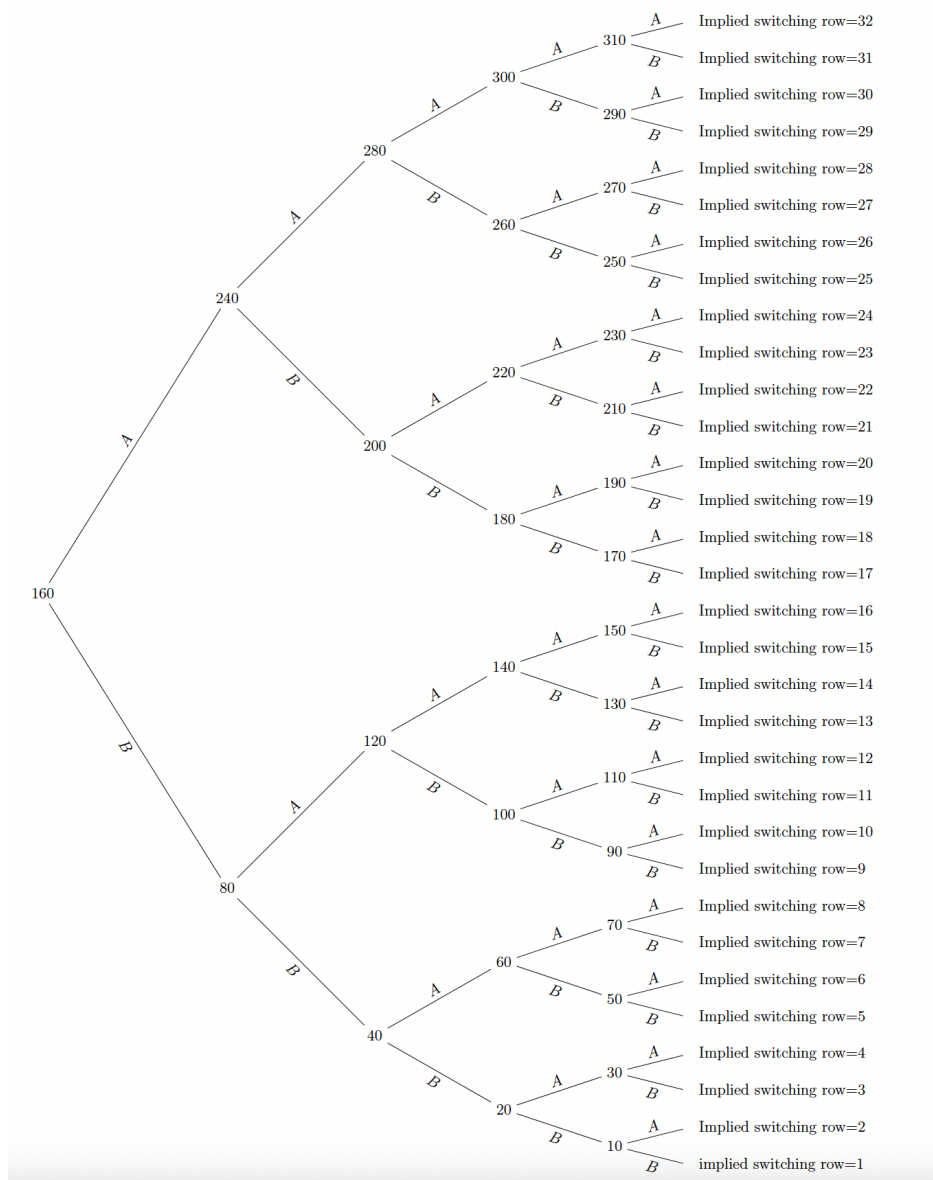
1.3.2 Tree Structure

Figure 2: Enter Caption

1.3.3 List of Questions (Risk)

1. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 160 Euro as a sure payment?

   (a) lottery ! go to question 17

   (b) sure payment ! go to question 2

2. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 80 Euro as a sure payment?

    (a) lottery ! go to question 10

    (b) sure payment ! go to question 3

3. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 40 Euro as a sure payment?

    (a) lottery ! go to question 4

    (b) sure payment ! go to question 7

4. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 60 Euro as a sure payment?

    (a) lottery ! go to question 5

    (b) sure payment ! go to question 6

5. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 70 Euro as a sure payment?

    (a) lottery

    (b) sure payment

6. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 50 Euro as a sure payment?

    (a) lottery

    (b) sure payment

7. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 20 Euro as a sure payment?

    (a) lottery ! go to question 8

    (b) sure payment ! go to question 9

8. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 30 Euro as a sure payment?

    (a) lottery

    (b) sure payment

9. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 10 Euro as a sure payment?

    (a) lottery

    (b) sure payment

10. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 120 Euro as a sure payment?

    (a) lottery ! go to question 14

    (b) sure payment ! go to question 11

11. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 100 Euro as a sure payment?

    (a) lottery ! go to question 13

(b) sure payment ! go to question 12

12. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 90 Euro as a sure payment?

    (a) lottery

    (b) sure payment

13. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 110 Euro as a sure payment?

    (a) lottery

    (b) sure payment

14. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 140 Euro as a sure payment?

    (a) lottery ! go to question 15

    (b) sure payment ! go to question 16

15. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 150 Euro as a sure payment?

    (a) lottery

    (b) sure payment

16. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 130 Euro as a sure payment?

    (a) lottery

    (b) sure payment

17. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 185 Euro as a sure payment?

    (a) lottery ! go to question 18

    (b) sure payment ! go to question 25

18. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 201.6 Euro as a sure payment?

    (a) lottery ! go to question 22

    (b) sure payment ! go to question 19

19. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 193.2 Euro as a sure payment?

    (a) lottery ! go to question 20

    (b) sure payment ! go to question 21

20. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 197.4 Euro as a sure payment?

    (a) lottery

    (b) sure payment

21. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 189.1 Euro as a sure payment?

    (a) lottery

    (b) sure payment

22. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 210.3 Euro as a sure payment?

    (a) lottery ! go to question 23

    (b) sure payment ! go to question 24

23. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 214.6 Euro as a sure payment?

    (a) lottery

    (b) sure payment

24. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 205.9 Euro as a sure payment?

    (a) lottery

    (b) sure payment

25. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 169.0 Euro as a sure payment?

    (a) lottery ! go to question 29

    (b) sure payment ! go to question 26

26. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 161.3 Euro as a sure payment?

    (a) lottery ! go to question 28

    (b) sure payment ! go to question 27

27. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 157.5 Euro as a sure payment?

    (a) lottery

    (b) sure payment

28. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 165.1 Euro as a sure payment?

    (a) lottery

    (b) sure payment

29. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 176.9 Euro as a sure payment?

    (a) lottery ! go to question 31

    (b) sure payment ! go to question 30

30. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 172.9 Euro as a sure payment?

    (a) lottery

    (b) sure payment

31. What would you prefer: a 50 percent chance of winning 300 Euro when at the same time there is 50 percent chance of winning nothing, or would you rather have the amount of 180.9 Euro as a sure payment?

    (a) lottery

    (b) sure payment

1.4 Staircase Time

This procedure is repeated four times. Suppose you were given the choice between the following: receiving a payment today or a payment in 12 months. We will now present to you five situations. The payment today is the same in each of these situations. The payment in 12 months is different in every situation. For each of these situations we would like to know which you would choose.

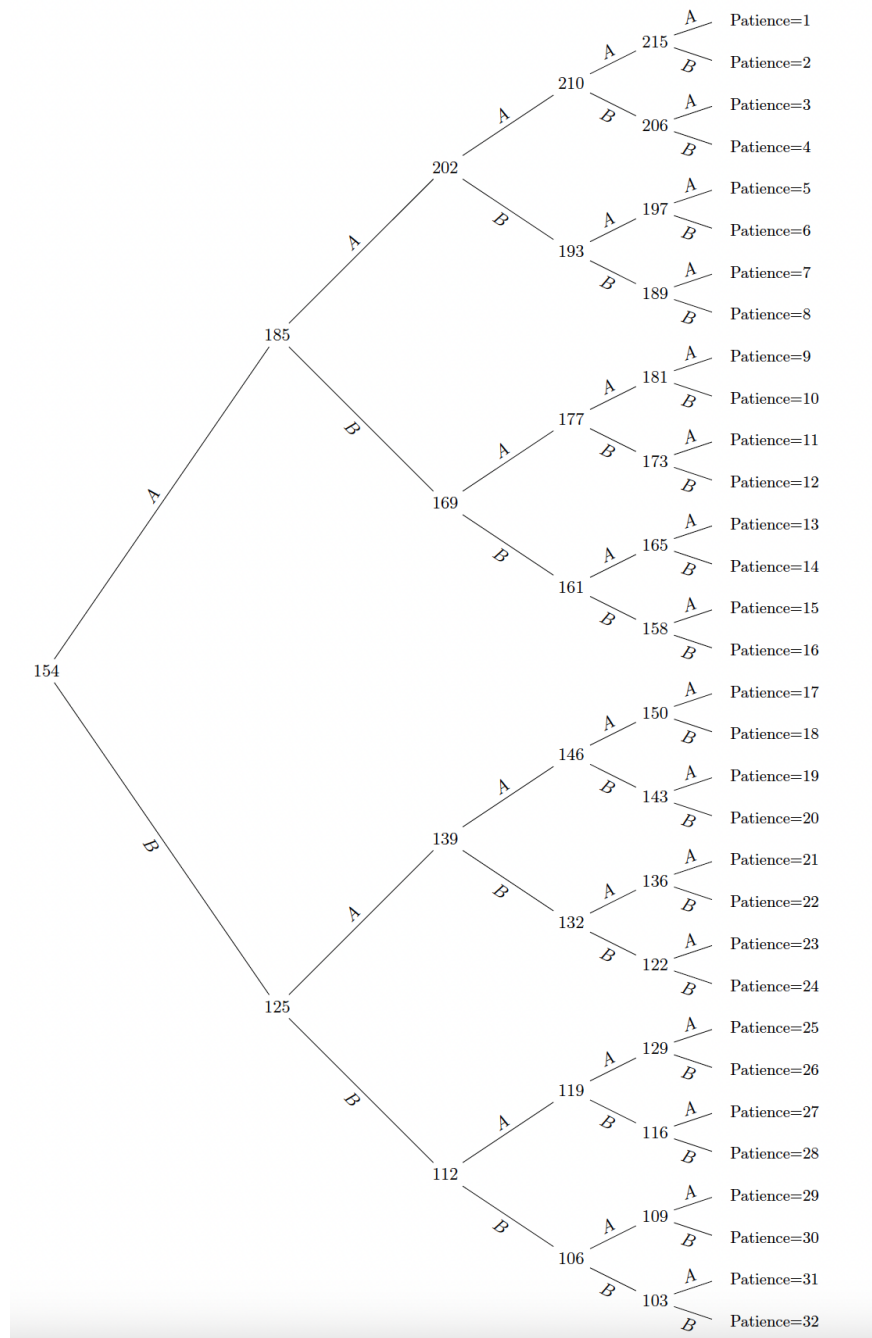### 1.4.1 Tree Structure

Figure 3: Enter Caption

1.4.2 List of Questions(Time)

1. Would you rather receive 100 Euro today or 153.8 Euro in 12 months?

   (a) today ! go to question 17
   (b) in 12 months ! go to question 2

2. Would you rather receive 100 Euro today or 125.4 Euro in 12 months?

   (a) today ! go to question 10
   (b) in 12 months ! go to question 3

3. Would you rather receive 100 Euro today or 112.4 Euro in 12 months?

   (a) today ! go to question 7
   (b) in 12 months ! go to question 4

4. Would you rather receive 100 Euro today or 106.1 Euro in 12 months?

   (a) today ! go to question 6
   (b) in 12 months ! go to question 5

5. Would you rather receive 100 Euro today or 103.0 Euro in 12 months?

   (a) today
   (b) in 12 months

6. Would you rather receive 100 Euro today or 109.2 Euro in 12 months?

   (a) today
   (b) in 12 months

7. Would you rather receive 100 Euro today or 118.8 Euro in 12 months?

   (a) today ! go to question 8
   (b) in 12 months ! go to question 9

8. Would you rather receive 100 Euro today or 122.1 Euro in 12 months?

   (a) today
   (b) in 12 months

9. Would you rather receive 100 Euro today or 115.6 Euro in 12 months?

   (a) today
   (b) in 12 months

10. Would you rather receive 100 Euro today or 139.2 Euro in 12 months?

    (a) today ! go to question 14
    (b) in 12 months ! go to question 11

11. Would you rather receive 100 Euro today or 132.3 Euro in 12 months?

    (a) today ! go to question 13
    (b) in 12 months ! go to question 12

12. Would you rather receive 100 Euro today or 128.8 Euro in 12 months?

(a) today

(b) in 12 months

13. Would you rather receive 100 Euro today or 135.7 Euro in 12 months?

    (a) today

    (b) in 12 months

14. Would you rather receive 100 Euro today or 146.4 Euro in 12 months?

    (a) today ! go to question 16
    (b) in 12 months ! go to question 15

15. Would you rather receive 100 Euro today or 142.8 Euro in 12 months?

    (a) today

    (b) in 12 months

16. Would you rather receive 100 Euro today or 150.1 Euro in 12 months?

    (a) today

    (b) in 12 months

17. Would you rather receive 100 Euro today or 185.0 Euro in 12 months?

    (a) today ! go to question 18
    (b) in 12 months ! go to question 25

18. Would you rather receive 100 Euro today or 201.6 Euro in 12 months?

    (a) today ! go to question 22
    (b) in 12 months ! go to question 19

19. Would you rather receive 100 Euro today or 193.2 Euro in 12 months?

    (a) today ! go to question 20
    (b) in 12 months ! go to question 21

20. Would you rather receive 100 Euro today or 197.4 Euro in 12 months?

    (a) today

    (b) in 12 months

21. Would you rather receive 100 Euro today or 189.1 Euro in 12 months?

    (a) today

    (b) in 12 months

22. Would you rather receive 100 Euro today or 210.3 Euro in 12 months?

    (a) today ! go to question 23
    (b) in 12 months ! go to question 24

23. Would you rather receive 100 Euro today or 214.6 Euro in 12 months?

    (a) today

    (b) in 12 months

24. Would you rather receive 100 Euro today or 205.9 Euro in 12 months?

(a) today

(b) in 12 months

25. Would you rather receive 100 Euro today or 169.0 Euro in 12 months?

    (a) today ! go to question 29

    (b) in 12 months ! go to question 26

26. Would you rather receive 100 Euro today or 161.3 Euro in 12 months?

    (a) today ! go to question 28

    (b) in 12 months ! go to question 27

27. Would you rather receive 100 Euro today or 157.5 Euro in 12 months?

    (a) today

    (b) in 12 months

28. Would you rather receive 100 Euro today or 165.1 Euro in 12 months?

    (a) today

    (b) in 12 months

29. Would you rather receive 100 Euro today or 176.9 Euro in 12 months?

    (a) today ! go to question 31

    (b) in 12 months ! go to question 30

30. Would you rather receive 100 Euro today or 172.9 Euro in 12 months?

    (a) today

    (b) in 12 months

31. Would you rather receive 100 Euro today or 180.9 Euro in 12 months?

    (a) today

    (b) in 12 months

References