**Nutrition Quiz Project in Python**

Description: This project is a Python-based nutrition quiz designed for students or anyone interested in nutrition. It contains 20 questions covering a variety of nutrition topics including vitamins, minerals, macronutrients, digestion, dietary guidelines, diseases caused by deficiencies, BMI, and probiotics. The program asks questions sequentially, validates input, and shows a final score with percentage and a review of incorrect answers.

**Nutrition Quiz Questions (20 Questions)**

1. **Which nutrient is the body's main source of energy?**  
   a) Protein  
   b) Carbohydrate  
   c) Fat  
   d) Vitamin
2. **Which vitamin is produced in the skin with sunlight?**a) Vitamin A  
   b) Vitamin C  
   c) Vitamin D  
   d) Vitamin K
3. **Which food group is the richest source of dietary fiber?**  
   a) Meat  
   b) Vegetables  
   c) Milk  
   d) Fish
4. **What is the normal BMI range for adults?**  
   a) 10-15  
   b) 16-18  
   c) 18.5-24.9  
   d) 25-30
5. **Which mineral is essential for strong bones and teeth?**  
   a) Iron  
   b) Calcium  
   c) Sodium  
   d) Iodine
6. **Kwashiorkor is caused by deficiency of:**a) Protein  
   b) Vitamin A  
   c) Vitamin C  
   d) Iodine
7. **Which nutrient is needed to build and repair tissues?**  
   a) Fat  
   b) Protein  
   c) Carbohydrate  
   d) Vitamin
8. **Which vitamin prevents night blindness?**  
   a) Vitamin A  
   b) Vitamin B12  
   c) Vitamin C  
   d) Vitamin D
9. **Which food is the best source of omega-3 fatty acids?**  
   a) Fish  
   b) Rice  
   c) Bread  
   d) Milk
10. **Which vitamin helps in blood clotting?**  
    a) Vitamin A  
    b) Vitamin C  
    c) Vitamin D  
    d) Vitamin K
11. **Which mineral is needed for making hemoglobin?**a) Calcium  
    b) Iron  
    c) Zinc  
    d) Iodine
12. **What is the main function of carbohydrates?**  
    a) Build muscle  
    b) Provide energy  
    c) Make hormones  
    d) Absorb vitamins
13. **Pellagra is caused by deficiency of which vitamin?**  
    a) Vitamin B3 (Niacin)  
    b) Vitamin C  
    c) Vitamin B12  
    d) Vitamin K
14. **Which part of digestion starts in the mouth?**  
    a) Fat digestion  
    b) Protein digestion  
    c) Carbohydrate digestion  
    d) Vitamin absorption
15. **Which vitamin prevents scurvy?**  
    a) Vitamin A  
    b) Vitamin B1  
    c) Vitamin C  
    d) Vitamin D
16. **Which mineral is needed for thyroid function?**  
    a) Calcium  
    b) Zinc  
    c) Iodine  
    d) Iron
17. **Which nutrient gives 9 kcal per gram?**  
    a) Protein  
    b) Carbohydrate  
    c) Fat  
    d) Alcohol
18. **Which vitamin helps absorb calcium?**  
    a) Vitamin A  
    b) Vitamin C  
    c) Vitamin D  
    d) Vitamin K
19. **Marasmus is caused by deficiency of:**  
    a) Fat only  
    b) Carbohydrate only  
    c) Protein and energy  
    d) Vitamin B12
20. **Which food is the best source of probiotics?**  
    a) Rice  
    b) Yogurt  
    c) Fish  
    d) Egg

**Python Code:**

# Nutrition Quiz Project in Python (Improved)

def run\_quiz():

questions = [

{

"question": "1. Which nutrient is the body's main source of energy?",

"options": ["a) Protein", "b) Carbohydrate", "c) Fat", "d) Vitamin"],

"answer": "b"

},

{

"question": "2. Which vitamin is produced in the skin with sunlight?",

"options": ["a) Vitamin A", "b) Vitamin C", "c) Vitamin D", "d) Vitamin K"],

"answer": "c"

},

{

"question": "3. Which food group is the richest source of dietary fiber?",

"options": ["a) Meat", "b) Vegetables", "c) Milk", "d) Fish"],

"answer": "b"

},

{

"question": "4. What is the normal BMI range for adults?",

"options": ["a) 10-15", "b) 16-18", "c) 18.5-24.9", "d) 25-30"],

"answer": "c"

},

{

"question": "5. Which mineral is essential for strong bones and teeth?",

"options": ["a) Iron", "b) Calcium", "c) Sodium", "d) Iodine"],

"answer": "b"

},

{

"question": "6. Kwashiorkor is caused by deficiency of:",

"options": ["a) Protein", "b) Vitamin A", "c) Vitamin C", "d) Iodine"],

"answer": "a"

},

{

"question": "7. Which nutrient is needed to build and repair tissues?",

"options": ["a) Fat", "b) Protein", "c) Carbohydrate", "d) Vitamin"],

"answer": "b"

},

{

"question": "8. Which vitamin prevents night blindness?",

"options": ["a) Vitamin A", "b) Vitamin B12", "c) Vitamin C", "d) Vitamin D"],

"answer": "a"

},

{

"question": "9. Which food is the best source of omega-3 fatty acids?",

"options": ["a) Fish", "b) Rice", "c) Bread", "d) Milk"],

"answer": "a"

},

{

"question": "10. Which vitamin helps in blood clotting?",

"options": ["a) Vitamin A", "b) Vitamin C", "c) Vitamin D", "d) Vitamin K"],

"answer": "d"

},

{

"question": "11. Which mineral is needed for making hemoglobin?",

"options": ["a) Calcium", "b) Iron", "c) Zinc", "d) Iodine"],

"answer": "b"

},

{

"question": "12. What is the main function of carbohydrates?",

"options": ["a) Build muscle", "b) Provide energy", "c) Make hormones", "d) Absorb vitamins"],

"answer": "b"

},

{

"question": "13. Pellagra is caused by deficiency of which vitamin?",

"options": ["a) Vitamin B3 (Niacin)", "b) Vitamin C", "c) Vitamin B12", "d) Vitamin K"],

"answer": "a"

},

{

"question": "14. Which part of digestion starts in the mouth?",

"options": ["a) Fat digestion", "b) Protein digestion", "c) Carbohydrate digestion", "d) Vitamin absorption"],

"answer": "c"

},

{

"question": "15. Which vitamin prevents scurvy?",

"options": ["a) Vitamin A", "b) Vitamin B1", "c) Vitamin C", "d) Vitamin D"],

"answer": "c"

},

{

"question": "16. Which mineral is needed for thyroid function?",

"options": ["a) Calcium", "b) Zinc", "c) Iodine", "d) Iron"],

"answer": "c"

},

{

"question": "17. Which nutrient gives 9 kcal per gram?",

"options": ["a) Protein", "b) Carbohydrate", "c) Fat", "d) Alcohol"],

"answer": "c"

},

{

"question": "18. Which vitamin helps absorb calcium?",

"options": ["a) Vitamin A", "b) Vitamin C", "c) Vitamin D", "d) Vitamin K"],

"answer": "c"

},

{

"question": "19. Marasmus is caused by deficiency of:",

"options": ["a) Fat only", "b) Carbohydrate only", "c) Protein and energy", "d) Vitamin B12"],

"answer": "c"

},

{

"question": "20. Which food is the best source of probiotics?",

"options": ["a) Rice", "b) Yogurt", "c) Fish", "d) Egg"],

"answer": "b"

}

]

score = 0

wrong\_answers = []

print("\n--- Nutrition Quiz ---\n")

for q in questions:

print(q["question"])

for option in q["options"]:

print(option)

# Input validation

while True:

user\_answer = input("Your answer (a/b/c/d): ").lower()

if user\_answer in ['a', 'b', 'c', 'd']:

break

else:

print("Invalid input! Please enter only a, b, c, or d.")

if user\_answer == q["answer"]:

score += 1

else:

wrong\_answers.append({

"question": q["question"],

"your\_answer": user\_answer,

"correct\_answer": q["answer"]

})

print()

# Final Result

total = len(questions)

percentage = (score / total) \* 100

print("\n--- Quiz Completed ---")

print(f"Your Score: {score}/{total}")

print(f"Percentage: {percentage:.2f}%\n")

if wrong\_answers:

print("Review of Wrong Answers:")

for wa in wrong\_answers:

print(f"{wa['question']}")

print(f" Your answer: {wa['your\_answer']}")

print(f" Correct answer: {wa['correct\_answer']}\n")

else:

print("Excellent! All answers are correct.")

# Run the quiz

run\_quiz()