python-04

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#########################################################
"""Program that converts speed from m/s to km/h"""
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def convert_ms_to_kmh(speed_ms):
    """Convert speed from meters per second to kilometers per hour"""
    speed_kmh = speed_ms * 3.6
    return speed_kmh

def calculate_time_to_cross_court(speed_ms, court_length):
    """Calculate time needed to cross a tennis court"""
    if speed_ms == 0:
        return None
    time_seconds = court_length / speed_ms
    return time_seconds

#########################################################
# Main interaction for speed conversion
#########################################################

while True:
    print()
    print("************************************************************")
    print("*            PROJECTILE SPEED ANALYZER                     *")
    print("************************************************************")
    print()
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choice = input("Press C to Convert speed, T to calculate Time, E to Exit ? ")
print()

if choice == "C" or choice == "c":
    try:
        speed_ms = float(input("Enter projectile speed in m/s ? "))

        if speed_ms < 0:
            print()
            print("Error: Speed cannot be negative!")
            print()
        else:
            speed_kmh = convert_ms_to_kmh(speed_ms)
            print()
            print("*************************************************************")
            print(f"A projectile launched at {speed_ms} m/s")
            print(f"is traveling at {speed_kmh:.2f} km/h")
            print("*************************************************************")
            print()
    except ValueError:
        print()
        print("Error: Please enter a valid number!")
        print()

elif choice == "T" or choice == "t":
    try:
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            speed_ms = float(input("Enter ball speed in m/s ? "))
            court_length = float(input("Enter tennis court length in meters (default
23.77) ? ") or "23.77")

            if speed_ms <= 0 or court_length <= 0:
                print()
                print("Error: Please enter valid positive values!")
                print()
            else:
                time_seconds = calculate_time_to_cross_court(speed_ms,
court_length)
                print()
                print("************************************************************")
                print(f"Ball speed:                {speed_ms} m/s")
                print(f"Court length:              {court_length} meters")
                print(f"Time to cross court:   {time_seconds:.3f} seconds")
                print("************************************************************")
                print()
        except ValueError:
            print()
            print("Error: Please enter valid numbers!")
            print()

    elif choice == "E" or choice == "e":
        break
    else:
        print()
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            print("Error: Invalid request")
            print()

print()
print("Goodbye!")
print()
```